REPORT

ON THE

Public Health Administration of the Punjab

AND

Proceedings of the Urban Sanitary Board

FOR THE YEAR 1927

BY

LIEUTENANT-COLONEL C. A. GILL, D.P.H., I.M.S.,
Director of Public Health, Punjab,

AND

The Report on Sanitary Works for 1927

BY

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Sanitary Engineer to Government, Punjab.

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Section II.—European Army.

No remarks.

Section III.—Native Army.

No remarks.

Section IV.—Jails.

No remarks.

Section VII.—Vaccination.

(Separate report.)

Section VIII.—Sanitary Works, Military.

No remarks.

(The text of the Public Health Report is limited to 20 pages and that of the Sanitary Engineer to 4 pages.)

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READ—

THE Report on the Public Health Administration of the Punjab for the year 1927.

General.

REMARKS.—The year 1927 is stated by the Director of Public Health to have been one of the healthiest years in the history of the Punjab, largely owing to meteorological conditions which were unfavourable to plague in the spring and to malaria in the autumn. The death-rate of 27·46 *per mille* was 9·06 *per mille* less than in 1926 and 5·13 less than the average of the previous five years. In fact in only two years in the present century has the provincial rate been lower. At the same time the birth-rate of 42·3 *per mille* was slightly higher than in the previous year. The infant mortality rate was also unusually low, the number of deaths of infants under one year of age being 167·5 per 1,000 births as compared with 203·43 in 1926 and an average of 193·64 during the previous five years The relatively high birth-rate is attributed by the Director of Public Health to the absence of a wide-spread epidemic of malaria in 1926 and the relatively low infantile mortality rate to the almost complete absence of epidemic malaria in the year under review. Thus, though the year was comparatively healthy, it cannot be claimed on this account that control over preventable disease has been achieved, and the Director points out that an examination of the statistics of the last sixty years indicates no downward trend of the death-rate. On the other hand the steady decline in the infantile mortality-rate during the last five years, a reduction in the intensity of cholera epidemics, and in the frequency and intensity of plague epidemics, and a definite tendency to diminution in the small-pox death-rate give cause for mild optimism for the future. Some comfort may also be derived from the fact that though the death-rate was in 1927 higher than in any other province, except the Central Provinces, the excess of births over deaths was also higher than in any other province. The highest district birth-rate was that of Lyallpur (52·6) and the lowest (excluding Simla) that of Kangra (33·8), while the lowest death-rate was that recorded in Dera Ghazi Khan (21·4) and the highest that of Gurgaon (34·4). The urban death-rate as usual was in excess of the death-rate in rural areas, and the Director of Public Health draws attention to the conspicuous excess of the mortality from respiratory diseases in urban areas, a feature which is in large measure attributable to the high incidence of pulmonary tuberculosis in towns.

Chief epidemic diseases.

2. It has already been observed that weather conditions were unfavourable to plague in the spring, and, though seventeen of the twenty-nine districts of the province were infected at the beginning of the year, the disease exhibited low diffusive power and the total mortality of the year was only 8,452 as compared with over 108,000 in 1926. On the other hand there was an epidemic of cholera of unusual intensity which was responsible for the loss of 11,286 lives. This was due to the importation of infection by pilgrims returning from the Kumbh fair at Hardwar. Within a week of the conclusion of this fair fifteen districts were infected and 100 cases with 48 deaths occurred. From these primary foci infection spread outwards and the only district which eventually escaped was Mianwali. Outbreaks in individual villages were, however, in most cases small and short-lived, but in Kasur the epidemic lasted for two months and caused 632 cases and 330 deaths in Kasur itself, while 48 villages, in which 718 cases and 509 deaths occurred, were directly infected from Kasur and from many of these villages infection was carried to others. For these disastrous results the municipal committee of Kasur was largely responsible and the Punjab Government (Ministry of Local Self-Government) appointed a commission of enquiry composed of the Commissioner of Lahore and two non-official members of the Legislative Council who found that the municipal committee had been guilty of grave neglect of duty. Government accordingly

refused to permit the election of the majority of the members, who in the meantime had been re-elected at a general election, to be notified, thus debarring them from office during the pleasure of Government. Small-pox accounted for 9,920 deaths as compared with 17,595 in the previous year. The number of deaths recorded as due to "fevers" was 358,679 or 77,477 less than in 1926. The mortality in October and November was abnormally low owing to the unusual mildness of autumnal malaria and the almost complete absence of the disease in epidemic form, but mortality in January and February was relatively high, mainly by reason of an epidemic of influenza in certain districts.

Sanitary Works.

3. Grants amounting to Rs. 7·37 lakhs were distributed during the year by the Urban Sanitary Board for drainage and water-supply schemes in towns and for water-supply and other sanitary schemes in rural areas. Among the latter may be mentioned the grants for the water-supply schemes for the fair grounds at Choa and Katas and at Jowalamukhi and a grant of Rs. 10,000 to the district board of Gurgaon to assist its propaganda work in connection with the pitting of manure in villages. Works completed during the year towards which funds had previously been provided by the Board included the Nurpur fair area water-supply, the Maghiana drainage scheme, the Jullunder city drainage scheme, surface drainage at Sheikhupura and the cleaning out and remodelling of the hot sulphur springs and baths at Sohna in the Gurgaon district, while satisfactory progress was made with the Choa and Katas water-supply schemes, the Sialkot drainage scheme, the Abohar drainage and water-supply schemes, the Thal ilaqa water-supply, the Multan water works and many others.

Maternity and Child-welfare work.

4. The Punjab Health School was provincialized from the 1st April 1927. Eight students obtained the Health Visitor's diploma and the number of Health Visitors employed by local Health Committees rose from 19 to 28. Perhaps the most important duty of Health Visitors is the training and supervision of indigenous *dais*, of whom 456 were trained during the year, and 40 passed the Punjab Central Midwives Board examination. The Health School has accommodation at present only for 8 students and the question of enlarging it is now under the consideration of Government. It is clear that whatever Government or local bodies may be able to do in the matter of providing trained nurse *dais* at the public hospitals and dispensaries, the great majority of the female population will always have to rely for assistance chiefly on the indigenous *dai* in private practice : it is therefore of the first importance to increase the number of Maternity and Child-welfare Centres employing Health Visitors, who can train these *dais* in proper methods and keep them up to the mark by supervision of their practice.

Public Health Staff.

5. During the year the re-organization of the district staff came into force, and those District Health Officers who had been district board employees, though their entire pay was provided by Government, became Government servants. They and the Assistant Epidemiologists who were already in Government employ became District Medical Officers of Health ; six additional appointments were made and by the end of the year every district had its own officer except two which continued to share one between them. In addition, two reserve posts were filled in order to provide Medical Officers of Health for the Mandi Hydro-Electric Scheme and for the Kangra Valley Railway. The special staff engaged for plague work in the Ambala division in 1926, continued to be employed throughout the year under review.

Acknowledgments.

6. Colonel W. H. C. Forster, I.M.S., was in charge of the department for most of the year, leaving in November to take up the appointment of Inspector-General of Civil Hospitals in Burma. The Punjab Government (Ministry of Local Self-Government) have already placed on record their sense of the great services which he rendered to the cause of public health in this province during the nine years of his tenure of the post of Sanitary Commissioner and Director of Public

Health. He has been succeeded by Lieutenant-Colonel C. A. Gill, I.M.S., formerly Assistant Director of Public Health (Technical) Epidemiology, to whom the acknowledgments of Government are due for a most interesting report and for the zeal with which he has embarked upon his duties as Director. Lieutenant-Colonel Gill has already made a name for himself as an epidemiologist and the Punjab Government (Ministry of Local Self-Government) take this opportunity of congratulating him on the publication of a most valuable study of "The Genesis of Epidemics". The acknowledgments of Government are also due to the other officers of the department for their good services during the year, and they cordially endorse the Director's commendation of Major J. R. D. Webb, Drs. Harnath Singh, G. C. Sahgal, Muhammad Yakub, Narinjan Singh Sethi, Muhammad Said and Tiwari, and Miss Simon and Miss Raynor.

Order.—Ordered that copies of this review be circulated with the report and be furnished with the usual number of copies of the report to the Government of India; also that the review be published in the *Punjab Government Gazette.*

Ordered further that a copy be furnished to the Director of Public Health, Punjab, for information.

By order of the Punjab Government
(Ministry of Local Self-Government),

FIROZ KHAN, NOON,
Minister for Local Self-Government.

J. G. BEAZLEY,
Secretary to Government, Punjab,
Transferred Departments.

1258 CS—425—1-11-28—SGPP Lahore.

ERRATA.

ANNUAL PUBLIC HEALTH REPORT OF THE PUNJAB FOR 1927.

1. In line 6 of paragraph 4, page 2, *for* " 192 " *read* " 1924."
2. In line 10 of paragraph 23, page 17, *for* " 86469 " *read* " 34739."
3. In line 14 of paragraph 23, page 17, *for* " 2805 " *read* " 716."
4. Annual Form No. I, sub-column 3, against Ambala, *for* " 36096 " *read* " 360967."
5. Annual Form No. I, sub-column 3, against Attock, *for* " 2620 8 " *read* " 262028."
6. Annual Form No. II, sub-column 26, against Ambala, *for* " 3 ·5 " *read* 37·5."
7. Annual Form No. IV, sub-column 12, against Hoshiarpur, *for* " 4 8757 " *read* " 428757."
8. Annual Form No. IV, sub-column 71, against Lahore, *for* " 6 5 " *read* " 625."
9. Annual Form No. VI-A (Rural Circles), sub-column 3, against Ambala, *for* " 5783 3 " *read* " 578383."
10. Annual Form No. VI-A (Rural Circles), sub-column 3, against Ludhiana, *for* " 4267 " *read* " 484267."
11. Annual Form No. VI-A (Rural Circles), sub-column 3, against Montgomery, *for* " 675 76 " *read* " 675976."
12. Annual Form No. VI-B (Towns), sub-column 27, Rohtak District, against Gohana town, *for* " 6· 6 " *read* " 6·66."
13. Annual Form No. VI-B (Towns), sub-column 3, Attock District, against Campbellpur town, *for* " 3666 " *read* " 3669."
14. Annual Form No. IX, sub-column 5, against Lyallpur, *for* " 372 " *read* " 972."
15. Annual Form No. X, sub-column 4, against Rawalpindi, *for* " 1 " *read* " 14."
16. Annual Form No. XI, sub-column 7, against Jhelum, *for* " 83 " *read* " 183."
17. Annual Form No. XII, sub-column 7, against Rohtak, *for* " 9 " *read* " 91."
18. Annual Form No. XII, sub-column 19, against Lyallpur, *for* " 32 " *read* " 23."

31—DPH—367—28-11-28—SGPP Lahore.

SECTION I.—Meteorology.

Chief meteorological features.

1. That meteorological conditions, and more particulary abnormal seasons, exercise a profound influence upon the state of the public health has been repeatedly emphasized in the public health reports of this province. It has, in fact, been recognized for more than 50 years that an excess of rainfall during the monsoon period is almost invariably followed by an epidemic of malaria, and that scarcity and famine (due to deficiency of rainfall) exercise equally disastrous effects upon the state of the public health. It is, therefore, peculiarly appropriate, in the case of a province where health and to large extent prosperity, is a gamble in rain, that Section I of the annual public health report should comprise a summary of the meteorological conditions prevailing during the year. Our knowledge of the part played by climate and the weather in the natural history of disease is far from complete, but it may well be that the time is not far distant when the recital of the more conspicuous features regarding the vagaries of the climate, which have hitherto constituted the *motif* of this section of the report, will give place to a more illuminating account of the influence of climate and weather upon health and disease. But, even now, it is possible to trace, with some precision, in respect of malaria and plague, the effect of meteorological conditions upon the state of the public health, and a special interest therefore attaches to those concerned in determining epidemics of these diseases. In the case of plague, the rainfall and atmospheric humidity prevailing during the months of December to March are known to possess high significance whilst, in the case of malaria, the climatic conditions prevailing during the months of July and August are recognized to be of exceptional importance.

Bearing these points in mind the meteorological conditions prevailing during the year 1927 may now be summarized.

In December 1926 and in January 1927 the winter rainfall, derived from cyclonic storms that enter India from the west, was in conspicuous defect. In February, as the result of five western disturbances, the rainfall was in moderate excess over the north and east of the province, and in slight defect elsewhere. In March and April there were fifteen western disturbances, but they occasioned little rainfall over the greater portion of the plains. On the whole rainfall and atmospheric humidity were in defect in the plains of the Punjab throughout the period from December 1926 to March 1927.

In May unsettled weather, associated with thunderstorms, dust-storms, and an excess of rainfall in the east and north of the province, delayed the onset of the hot weather, but in June, as the result of a defect of rainfall, the maximumt emperature reached an unusually high figure and atmospheric humidity was abnormally low.

The monsoon appeared in the province on the 4th July, but, although several heavy falls occurred during the last half of the month of July, the rainfall and atmospheric humidity throughout the months of July and August were either normal or in slight defect over the greater part of the plains, whilst in the hill tract, along the north and east of the province, the rainfall was above normal.

The rainfall in September, October and November was in large or in moderate defect except in the hills, but atmospheric humidity was in slight excess. In December a western disturbance caused widespread rainfall during the last half of the month, the total precipitation being more than twice the normal amount in the east and north of the province, and in large excess in the south-west.

The chief features of the year, from the point of view of the public health, were therefore the low rainfall and low atmospheric humidity in the plains during the winter and during the monsoon period (July-August) respectively, and it is permissible to infer that the exceptionally mild incidence

of plague in the spring and of malaria in the autumn was in large measure a reflection of these circumstances.

Economic conditions.

2. In an essentially agricultural province like the Punjab, economic conditions, no less than health, are intimately bound up with vagaries of climate, and more especially of rainfall ; the amount of rainfall, and its distribution in time and space, were not, however, unfavourable to agricultural operations, and scarcity and, *a fortiori*, famine, were conspicuous by their absence. There was, in fact, as shown in Table I, an appreciable fall in prices, as compared with the previous year, in all food-grains, but although this fact may be attributable, in the case of wheat, to the condition of the world-market, of which the Punjab now forms an integral part, the fall in the price of maize, jowar and bajra must mainly be ascribed to favourable seasons. The average price of food-grains in seers to the rupee prevailing in the principal markets of the Punjab during the year 1927 and in the previous year are given in Table I.

TABLE I.

—	Wheat.		Barley.		Maize.		Jowar.		Bajra.	
	1926.	1927.	1926.	1927.	1926.	1927.	1926.	1927.	1926.	1927.
1. Lahore ...	7 1/8	8 1/8	9 3/4	11·0	7 1/8	8 11/16	7 1/2—8 1/8	7 15/16—9 3/8	6 7/16—7 9/16	9
2. Multan ...	7 3/16	8 0	10 3/4	11 3/8	7·0	8 7/8	7 1/2—8 1/8	7 15/16—9 3/8	6 7/16—7 9/16	9
3. Ambala ...	7 5/8	8 1/4	11 1/4	11 1/4	8 5/8	10 1/4	..	...	...	...
4. Rawalpindi...	6 3/4	7 1/2	10 3/16	11 1/8	7 9/16	9 1/4	7 1/2—8 1/8	..	6 7/16—7 9/16	9 1/8

Summary.

3. The meteorological circumstances of the year, both in respect of health and agriculture, were exceptionally favourable ; and as the result of the fact that the rainfall was both timely and well distributed, and was nowhere in great excess or in conspicuous defect, the province successfully steered a course between the Scylla of scarcity and the Charybdis of disease, so that the year 1927 achieved the distinction of being one of the healthiest years in the history of the Punjab.

SECTION V.—Vital Statistics.

General Review.

Population.

4. The population enumerated at the census taken in March 1921 was 20,517,606, whilst the population on January 1st, 1928, estimated by adding the births and subtracting deaths that have occurred since April 1st, 1921, was 21,842,857 (11,921,529 males and 9,921,328 females). In spite, therefore, of great epidemics of plague in the years 1924 and 1926 (which occasioned 251,261 and 108,287 deaths respectively) the population has undergone a natural increase of 1,325,251 during the course of 6 3/4 years or an average of 196,333 per annum. The natural increase of population during the year 1927 was, however, 304,008, which is thus indicative of the recuperative power of the people of the Punjab under favourable conditions of health.

The normal annual rate of increase of the population, in the absence of devastating epidemics, may be regarded as approximately 320,000 per annum, but the actual rate is much less ; indeed, owing mainly to the fact that in many years the number of deaths greatly exceeds the number of births, the population of the Punjab, which at the first regular census in the year 1881 was 16,938,910, has only increased by 3,746,114 during the course of 40 years, which represents a mean annual increase of 93,653 as compared with a mean annual increase in England and Wales during the same period of 262,544.

It is often held, if all preventable causes of mortality could be eliminated, that the resulting pressure of the population upon the land would entail grave evils, but it is forgotten that the Punjab is a young, and at present, only a partially developed country—canal irrigation has added approximately 8·5 million acres to the cultivable area during the past 40 years—and that the adjustments and adaptations occasioned by the " struggle for existence " amongst a potentially vigorous race lead, not only to a higher general level of efficiency, to a greater out-put of energy and to a steady advance in the scale of civilization, but, as a result of the postponement of marriage, and other inhibitions, to a slowing down in the rate of increase of the population. In spite therefore of the lugubrious forebodings of statisticians and others, a steady increase of population, given the power and will to advance (but not otherwise) is to be welcomed, and those responsible for the public health may therefore vigorously bend themselves to their task in full confidence that the future may safely be left to take care of itself.

The birth-rates and death-rates given in this report, are as usual, based upon the census population in the year 1921, but the provincial birth-rate, calculated on the estimated population, is 39·7 *per mille* or 2·6 less than the rate based upon the census population (42·3 *per mille*), whilst the provincial death-rate, when calculated on the estimated population, is 25·8 *per mille* or 1·7 *per mille* less than the figure based upon the census population (27·5 *per mille*).

The natural increase in the population has been accompanied by a change in the sex composition of the population. In the year 1911, following a series of disastrous epidemics of plague, the excess of males over females rose from 1,526,319 to the high figure of 1,962,891 ; in the year 1921, after a number of relatively mild plague years, this figure was reduced to 1,927,506 ; but, as the result of the plague epidemics in the years 1924 and 1926, it again rose, so that at the end of the year 1927, males exceeded females by 2,000,201.

The disproportion between the number of the sexes, which is more conspicuous in the Punjab than in other provinces of India, and quite different from that prevailing in England and Wales where, in an estimated population of 39,067,000, in the year 1926, the number of females exceeded the number of males by 1,671,000, is ascribable partly to the special liability of females to succumb to plague, and partly to the higher toll of female life exacted by small-pox, " fevers", and, indeed (with the exception of cholera) by almost all diseases. If females did not suffer disproportionately from plague and other diseases, the disparity between the number of the sexes would not long persist owing to the fact that the number of male children born each year exceeds the number of females by approximately 48,000, and it is a curious circumstance that, in years following a severe epidemic of plague, the excess of male over female births is somewhat smaller than it is in other years. The fact, however, remains that a serious shortage of females, mainly as the outcome of preventable causes, is a prominent feature of the vital statistics of this province, and in the year 1927 this shortage was more conspicuous than it has been at any other time since the year 1891.

5. *The State of the Public Health.*—It is difficult to disentangle from the mass of statistics which annual reports must necessarily comprise, the salient features respecting the state of the public health and it may therefore serve a useful purpose to summarize these features in a single paragraph.

The year 1927, so far as the death-rate is concerned, was one of the healthiest years on record, for in spite of the fact that a severe epidemic of

cholera was responsible for 11,286 deaths, the provincial death-rate (27·46 *per mille*) has only twice in the present century—in the years 1912 and 1922—reached a lower figure than in the year under review. The reduction in mortality, as compared with the previous year, was 9·06 *per mille*, and 5·13 *per mille* as compared with the mean figure of the previous five years.

The death-rate under the several heads of mortality during the year 1927, and the corresponding mean figures for the previous five years, are shown in Table II, from a scrutiny of which it will be seen that the low figure for the year 1927 is mainly ascribable to the relatively low death-rate from plague and "fevers"; it will, indeed be seen that the death-rate from cholera, small-pox and respiratory diseases shows, as compared with the quinquennial mean figures, a small but appreciable increase.

TABLE II.

Years.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory.	Injuries.	All other Causes.	Total.
1927 ...	0·55	0·48	0·41	17·48	0·54	2·77	0·38	4·88	27·46
1922–26 ...	0·06	0·32	4·44	19·66	0·50	2·38	0·31	4·91	32·59
Increase or Decrease.	+0·49	+0·16	−4·03	−2·18	+0·04	+0·39	+0·02	−0·03	−5·13

Another favourable feature of the year 1927 was the high birth-rate, which was 42·3 *per mille* or 0·7 *per mille* in excess of the previous year and 1·4 *per mille* in excess of the quinquennial mean figure.

The infantile mortality-rate was also unusually low, the number of deaths of infants under one year of age being 167·50 per 1,000 births as compared with 203·43 in the previous year, and a mean figure of 193·64 in the preceding quinquennium. These features, in so far as they exhibit a departure from normal, reflect, in the case of the death-rate, the unusual mildness of epidemic plague in the spring and of epidemic malaria in the autumn. The relatively high birth-rate is mainly attributable to the absence of a widespread epidemic of malaria in the preceding year, whilst the relatively low infantile mortality-rate is mainly due to the almost complete absence of epidemic malaria in the year under review.

It would be pleasing, if it were justifiable, to ascribe the exceptional salubrity of the year 1927 to the "control" achieved over preventable disease, but unfortunately it is not possible to lay this flattering unction to our souls, since, as already stated, a favourable concatenation of climatic circumstances is mainly responsible for this happy state of affairs. The unusual salubrity of the year 1927 must, in fact, be mainly ascribed to climatic causes, and it is consequently inexpedient to attach undue importance to the fact that the death-rate was conspicuously low as compared with the corresponding figure of the previous year and the mean death-rate of the preceding five years. It is necessary, in assessing the state of the public health in countries liable to great epidemics, to examine the statistics over a prolonged period and for this purpose a reference is invited to Appendix D, where graphs showing the provincial birth-rate, the death-rate, the infantile mortality-rate and the death-rate from the chief diseases during the past 60 years, are depicted. It will be seen that the birth-rate, except in years following a severe epidemic of malaria, has remained almost constant throughout the above period, that the annual death-rate exhibits remarkable fluctuations and that no obvious downward trend of the death-rate is discernible. Plague was introduced into the Punjab in the year 1898 and it is

mainly due to the fact that plague has occasioned over 3 million deaths during the past 25 years that the death-rate during the last two decades has exhibited no appreciable decline. On the other hand, the steady decline of the infantile mortality-rate during the past five years constitutes a hopeful feature. In regard to the chief diseases, neither cholera nor "fevers" show any appreciable decline, although, in the case of cholera, the epidemics during the past two decades have exhibited a distinct reduction in intensity. In the case of plague a decline both in the frequency and intensity of epidemics is apparent, whilst the small-pox death-rate, in spite of epidemics exhibiting a more or less definite five-yearly periodicity, shows a definite trend in the direction of diminution.

The inference that may be drawn from this brief retrospect is that whilst little real "control" over disease has yet been achieved, in certain respects some improvement in the state of the public health is discernible.

But if a feeling of moderate satisfaction and mild optimism is alone possible, the state of the public health of the Punjab compares not unfavourably with that of other provinces of India. It is true that the death-rate of the year 1927, although abnormally low, was (with one exception) higher than that of any other province of India, but so also was the birth-rate, whilst in no other province was the excess of births over deaths so large. (Table III).

TABLE III.

Province.	Birth-rate.	Death-rate.	Excess of birth-rate over death-rate.
1. Punjab	42·27	27·46	14·81
2. Central Provinces	45·58	31·31	14·27
3. Bihar and Orissa	37·64	25·08	12·56
4. Bombay	36·85	25·72	11·13
5. United Provinces	36·73	22·59	14·14
6. Madras	36·50	24·30	12·20
7. Assam	30·23	23·47	6·76
8. Burma	25·08	19·55	5·53
9. North-West Frontier Province ...	29·28	22·05	7·23
10. Bengal	27·70	25·60	2·10

The high death-rate of the Punjab is mainly attributable to its peculiar liability to epidemic visitations, and, since the harm wrought by epidemics does not live after them, it may well be, given a relatively invigorating climate and a highly virile people, that it is possible to look forward to the time (at present far distant) when the Punjab will become one of the most salubrious provinces of India.

The Provincial Birth-Rate. (Annual Form No. 1.)

6. *Births.*— The total number of births registered during the year was 867,356 or 42·3 *per mille* of which 457,668 (22·3 *per mille*) were males and 409,688 (20·0 *per mille*) females, the corresponding figures for the previous year being 854,550 (41·6 *per mille*) of which 451,428 (22·0 *per mille*) were males and 403,122 (19·6 *per mille*) were females. The male birth-rate, therefore, as usual, exceeded the female birth-rate, the difference

during the year under review being 2·3 *per mille*. The number of males born to every 100 females was 111·7, as compared with 112·0 during the previous year and 112·2 during the preceding quinquennium.

The birth-rate during the year under report was thus 0·7 *per mille* in excess of the figures for the preceding year and 1·4 *per mille* in excess of the quinquennial mean figure. These favourable figures are mainly due, as already stated, to the extreme mildness of malaria in the preceding autumn.

District Birth-rate. (Annual Form No. 1).

7. The seven districts exhibiting the highest birth-rates were Lyallpur (52·6); Amritsar (48·4); Mianwali (48·2), Multan (46·4); Gurdaspur (46·3); Jullundur (45·8) and Montgomery (45·8); whilst the seven districts recording the lowest birth-rates (excluding Simla) were Kangra (33·8); Dera Ghazi Khan (35·2); Attock (36·6); Muzaffargarh (37·5); Ambala (37·8); Jhelum (37·9) and Lahore (38·6).

The number of acres of irrigated land per square mile and the density of the population in these fourteen districts is shown in Table IV.

TABLE IV.

District.	Birth-rate in 1927.	No. of acres per square mile of irrigated land.	Density of rural population per square mile.
Lyallpur	52·6	456	289
Amritsar	48·4	217	467
Mianwali	48·2	5	61
Multan	46·4	123	134
Gurdaspur	46·3	57	418
Jullundur	45·8	...	493
Montgomery	45·8	131	148
Kangra	33·8	18	76
Dera Ghazi Khan	35·2	34	79
Attock	36·6	2	116
Muzaffargarh	37·5	51	90
Ambala	37·8	1	299
Jhelum	37·9	...	157
Lahore	38·6	213	290

It is noteworthy that the two most extensively irrigated districts in the province (Lyallpur and Amritsar) exhibit the highest birth-rate, and that the birth-rate of Jullundur District (the most intensely congested district) is, as usual, well above the provincial mean figure. It would thus appear that extreme density of population and intensive irrigation are not incompatible with high fecundity.

Comparing the birth-rate of districts during the year under review with the mean figure of the preceding five years, 23 districts showed an increase and six a decrease, the increase being most conspicuous in the districts of Mianwali (+5·7), Muzaffargarh (+5·2), Multan (+4·9), and Lyallpur (+ 4·7), and the decrease being confined to the districts of Gurgaon (−3·4), Hoshiarpur (−2·5), Kangra (−2·3); Rohtak (—1·8), Ambala (—1·6), and Karnal (—0·5). The increase of the birth-rate is mainly attributable to the unusual healthiness of the preceding autumn, whilst the decline of the

birth-rate in the south-east of the province is largely the result of the high death-rate from plague in the Ambala Division during the years 1924 and 1926.

In no district did the number of deaths exceed the number of births and the excess of births over deaths was most conspicuous in Lyallpur (27·6), Montgomery (23·5), Multan (22·0), and least in evidence in Kangra (3·9), Ambala (4·6), Simla (5·8), Lahore (8·6), and Karnal (8·7).

The urban birth-rate.
Annual Form VI-B—Towns.

8. The birth-rate of the 45 towns of the province with a population of 10,000 and upwards was 43·3 *per mille* as compared with a mean birth-rate of 41·5 during the preceding five years. The birth-rate of the three cities of the province—Lahore, Amritsar and Multan—was 38·39, 49·53 and 47·36 *per mille* respectively as compared with a mean figure of 35·61, 50·00 and 45·11 during the preceding quinquennium. The birth-rate of the 171 municipal towns was 42·09 *per mille* as compared with a mean birth-rate of 40·72 during the previous five years.

The rural birth-rate.
Annual Form VI-A.

The birth-rate in rural areas (excluding cities and towns) was 42·29 *per mille* as compared with a mean birth-rate of 40·86 *per mille* during the preceding five years, the districts (rural areas) showing the highest and lowest birth-rates being those enumerated in Table IV. The birth-rate of the 45 large towns was therefore 1·0 *per mille* in excess of the provincial mean figures, but the mean birth-rate of all towns and cities was slightly less (0·2 *per mille*) than the provincial birth-rate. As compared with the mean birth-rate of the preceding five years the increase in the birth-rate during the year under review was 1·8 *per mille* in the case of the 45 large towns, 1·3 *per mille* in the case of all towns and cities and 1·4 *per mille* in the case of districts (rural areas).

The Provincial death-rate.
Annual Form No. II.

9. *Deaths.*—The total number of deaths registered during the year was 563,349 (27·5 *per mille*) of which 303,468 (27·1 *per mille*) were males and 259,881 (27·9 *per mille*) were females, the mean figures for the preceding five years being 32·6 *per mille* for the total population and 31·1 and 34·3 *per mille* for males and females respectively. The female death-rate was, as usual, higher than the male death-rate, but the difference in the year 1927 was only at the rate of 0·8 *per mille* as compared with a mean figure of 3·2 *per mille* during the preceding five years. In the year 1924, when plague caused 251,261 deaths, the difference between the male and female death-rate was 5·6 *per mille*, this high figure being due to the peculiar liability of females to succumb to plague. The small difference between the death-rate of the sexes in the year under review is thus a reflection of the exceptionally low incidence of plague in the year 1927. Nevertheless, owing to the fact that males outnumber females by approximately two millions, the number of deaths of males to every 100 deaths of females was 116·8, as compared with 109·9 in the previous year.

The provincial death-rate, which was 5·1 *per mille* less than the mean annual death-rate during the preceding five years, represents deaths due to the great epidemic diseases, which may be termed the epidemic mortality, and to deaths due to all other causes, the former being subject to great annual fluctuations, whilst the latter remains relatively constant.

In the year under review the epidemic mortality comprised 11,286 deaths (0·55 *per mille*) from cholera, 9,920 deaths (0·48 *per mille*) from small-pox and 8,452 deaths (0·41 *per mille*) from plague, these three diseases being responsible for 29,658 deaths (1·45 *per mille*) as compared with a mean epidemic mortality of approximately 99,000 (4·82 *per mille*) during the preceding five years. "Fevers" accounted for 3,58,679 deaths (17·48 *per mille*), but this latter figure is approximately 2·18 *per mille* below the mean "fever" death-rate of the preceding five years. The death-rate from respiratory diseases was 2·77 *per mille*, which represents a slight increase (0·39) over the quinquennial

mean figure, whilst the mortality recorded under the head of dysentery and diarrhœa (11,136 or 0·54 *per mille*) was also in slight excess (0·04 *per mille*). The low death-rate of the year 1927 is thus mainly attributable to the conspicuously low mortality from plague and "fevers"; it would have been even lower if cholera, small-pox and respiratory diseases had not been unusually prevalent.

The District Death-rate. Annual Form No. II.

10. The five districts exhibiting the highest death-rate were Gurgaon (34·4), Ambala (33·2), Gurdaspur (32·8), Amritsar (32·7), and Hoshiarpur (31·7), whilst the five districts (excluding Simla) recording the lowest death-rate were Dera Ghazi Khan (21·4), Gujrat (21·9), Montgomery (22·3), Rawalpindi (23·0) and Jhelum (23·2). The difference between the highest and the lowest district death-rate was 13·0 *per mille*, as compared with 44·4 *per mille* in the previous year.

Only three districts Hoshiarpur (+2·3 *per mille*); Kangra, (+0·6 *per mille*); and Mianwali, (+0·6 *per mille*) exhibited a death-rate above the quinquennial mean figure, the chief cause being malaria in the case of Hoshiarpur and Mianwali and diseases of the respiratory and alimentary tracts in Kangra district.

The Urban Death-rate. Annual Form No. VI (B).

11. The death-rate of the 171 towns was 29·19 *per mille*, as compared with a mean figure of 33·42 during the preceding five years, which represents a decrease at the rate of 4·23 *per mille* of population. The death-rate of the cities of Lahore, Amritsar and Multan was 31·65; 37·84 and 34·30 *per mille* respectively, as compared with 33·88, 40·70 and 31·50 *per mille* respectively during the preceding five years. These figures thus indicate that in a healthy year, in which epidemics were conspicuous by their absence, the death-rate in these cities was 4·1, 10·3 and 7·3 *per mille* above the mean provincial figure. Some of the smaller towns recorded exceedingly high death-rates, *viz*, Guru Har Sahai (120·93) Pathankot (57·80), Mukerian (53·23), Pakpattan (52·23) Hansi (50·05), Firozpur (48·44), Jagadhri (48·08), Dinanagar (45·47), Palampur (45·37) Kasur (42·78), Bahadargarh (41·98), Dasuya (41·14), Ramdas (41·09) Palwal (41·06), and Khudian (40·97). It must, however, be recollected that a few additional deaths in a small community occasion a relatively large rise of the death-rate; indeed, the above figures, except in the case of Kasur, where an epidemic of cholera caused 363 deaths, were the result of quite small outbreaks of either plague, malaria, cholera or influenzal pneumonia.

Rural Death-rate. Annual Form No. VI-A.

12. The rural death-rate was 27·26 *per mille* as compared with 32·46 *per mille* in the preceding quinquennium, the decrease being equal to 5·20 *per mille* of population. The rural death-rate was everywhere below the quinquennial mean figure except in Hoshiarpur (+2·31), Kangra (+0·56) and Mianwali (+0·84). The five districts (rural areas) showing the greatest excess above the provincial mean figure were Gurgaon (34·65), Ambala (33·52), Gurdaspur (32·46), Hoshiarpur (31·82), and Amritsar (31·78), the chief cause being cholera, plague and malaria, but, in the case of Gurgaon and Ambala, influenzal pneumonia was also responsible.

Comparison of Urban and Rural Death-rates.

13. The urban death-rate (29·19) exceeded the rural death-rate (27·26), the difference being equal to 1.93 *per mille* of population. The death-rate under the various heads of mortality in urban and rural areas is shown in Table V, from a scrutiny of which it will be seen that the urban death-rate under every head of mortality, with the exception of "fevers", was higher than the rural death-rate, and it will also be noted that the excess of the urban death-rate over the mean rural death-rate during the period 1871—1921 was at the rate of 5·54 *per mille* of population.

TABLE V.

Head of Mortality.	Urban Death-rate 1927.	Rural Death-rate 1927.	Excess or defect of urban death-rate in 1927.	Excess or defect of Urban over Rural death-rate (1871—1921).
Cholera ...	0·67	0·54	+0·13	+0·26
Smallpox ...	0·67	0·46	+0·21	+0·33
Plague ...	0·43	0·41	+0·02	—1·80
Fevers ...	12·00	18·11	—6·11	—2·19
Dysentery and diarrhœa ...	1·27	0·46	+0·81	+1·85
Respiratory Diseases ...	6·41	2·35	+4·06	+3·45
Injuries ...	0·38	0·32	+0·06	+0·05
Other Causes ...	7·35	4·60	+2·75	+1·46
Total ...	29·19	27·26	+1·93	+5·54

The most striking feature brought out by the figures given in Table V is the relatively high "fever" death-rate in rural areas, which is indicative of the well-known fact that malaria is mainly a scourge of the rural populataion. Another feature brought out in Table V is the conspicuous excess of the respiratory death-rate in urban areas which in large measure is attributable to the high incidence of pulmonary tuberculosis in towns and cities. Finally it will be noted that death-rate from bowel complaints was nearly three times greater in towns than in rural areas. The inference that may be drawn from these figures is therefore that the Punjab village, thanks largely to an abundance of fresh air, sunlight and perhaps unsophisticated food, is a relatively healthy locality whilst highly congested urban areas where "natural sanitation" is impossible and where every sanitary rule is wilfully disregarded or woefully neglected, constitute a fertile breeding ground of disease. The problems associated with the improvement of the health of the urban population are therefore of special importance and peculiar urgency, but, for the nonce, as the result of the striking work initiated in Gurgaon (which demands the fullest recognition and encouragement) "rural uplift" has seized the popular imagination, and the grave conditions that cry aloud for amelioration in the towns of the province are overlooked or ignored. It must be recollected that the urban population is largely recruited from rural areas and that the towns attract, either for trade, for education or for pleasure, the most enterprising and progressive members of the rural population. Example is better than precept (and far more convincing), and it must, somewhat be puzzling to the "uplifted" villager, when he visits a large town, to see the precepts he has had dinned into his ears in his relatively healthy home honoured more in their breach than in their observance.

14. **Seasonal incidence.**—Owing to the mild incidence of plague and malaria the seasonal variations in the incidence of mortality were abnormally small. As usual, August (death-rate 1·88 *per mille*) was the healthiest month of the year, whilst the unhealthiest month was January (2·75 *per mille*) followed, in order of magnitude of mortality, by May (2·52), February (2·45) March (2·38), and July (2·36). The highest mortality is usually recorded in April or October but, as the result of the low incidence of plague in the spring and of malaria in the autumn, the unhealthiest month of the year 1927 was January, this unique event being partly dependent upon the fact that influenzal pneumonia was unusually prevalent, more especially in the districts of the Ambala division, during this month. The relatively high mortality in February is likewise due to influenza, whilst the relatively high death-rate in March and May is mainly due to plague, and in July to cholera.

Annual Form No. III.

15. **Age Incidence of Mortality.**—The number of children belonging to the three age-groups under one year of age is not known and the actual number of deaths in these age-groups can alone be given.

Annual Form No. IV.

Amongst infants not exceeding one month in age the total mortality was 65,520 (35,568 males and 29,952 females) as compared with

75,175 (40,869 males and 34,306 females) in the preceding year. The unusual salubrity of the year 1927 is therefore reflected in the mortality bills of the earliest period of life. The districts showing the largest number of deaths in this age group were Jullundur (4,211) ; Amritsar (4,139) ; Gurdaspur (3,737) ; Hoshiarpur and Lyallpur (3,335) ; and Multan (3,281). And it is perhaps more than a coincidence that the four first named districts constitute the districts in which the density of the rural population per square mile is greatest. As is usual in most countries, the number of deaths of male children during the first month of life exceeded the number of deaths amongst females. The excess in the number of male deaths in the year 1927 was 5,616, to which every district of the province contributed, with the sole exception of Jullundur, where the excess of female deaths amongst Hindus (other classes show the usual excess of male deaths) was 195.

In the case of children over one month and not exceeding six months of age the mortality was 41,541 (22,310 males and 19,231 females), the districts showing the highest mortality being Amritsar (2,421), Ferozepore (2,325), Hoshiarpur (2,285), Lyallpur (2,193), and Lahore (2,051). The excess of male over female deaths in this age-group was 3,079, to which all districts, with the exception of Kangra, contributed.

In the case of children over six months and under 12 months of age the total mortality was 38,224 (20,509 males and 17,715 females), the districts showing the highest number of deaths being Gurgaon (2,097), Shahpur (2,015), Hoshiarpur (2,013), Gurdaspur (1,966) and Lahore (1,900). The excess of males over females was 2,794, to which all districts, except Kangra and Mianwali, contributed.

The mortality under the age of six months must largely be ascribed to inherited defects or defective nurture, but the spatial distribution of the districts exhibiting a relatively high death-rate in children over six months and under one year of age suggests that disease acquired after birth, and more particularly malaria, was largely responsible for the relatively high mortality in this age-group in the districts of Gurgaon, Hoshiarpur and Gurdaspur.

Infants under one year of age.—The total mortality in this age-group was 1,45,285 (78,387 males and 66,898 females), or a decrease of 17,000, as compared with the mean figure of the preceding five years, and 28,559, as compared with the previous year. The infantile mortality rate or the number of deaths amongst children under one year of age per 1000 births was 167·50 (171·27 males and 163·29 females) as compared with 193·64 during the preceding quinquennium and 203·43 in the previous year. These figures therefore reflect once more the unusual salubrity of the year 1927, and more especially the absence of malaria in epidemic form.

The Death-rate at all Age Periods.—The death rate *per mille* of population of each age-group by age-periods and by sexes during the year 1927 is shown in Table VI, together with the corresponding figures for the previous year.

TABLE VI.

Age-Period.	1927.		1926.		Difference in 1927.	
	Males.	Females.	Males.	Females.	Males.	Females.
0—	184·46	163·77	219·14	197·60	—34·68	—33·83
1—	45·42	41·80	53·22	52·53	—7·80	—10·73
5—	10·97	11·29	15·34	17·34	—4·37	—6·05
10—	10·73	13·10	16·64	21·39	—5·91	—8·29
15—	15·28	18·47	23·13	29·52	—7·85	—11·05
20—	12·32	13·92	18·05	21·38	—5·73	—7·46
30—	14·88	16·39	20·15	23·59	—5·27	—7·20
40—	21·65	20·63	28·69	30·27	—7·04	—9·64
50—	30·22	29·44	39·80	42·29	—9·58	—12·85
60 and upwards ...	52·33	51·60	65·78	73·85	—13·45	—19·25

The figures given in Table VI show that the male and female death-rate at all age periods was appreciably smaller than that of the previous year, the reduction being relatively great at the extremes of life. It will also be seen that the reduction of the female death-rate, in the case of adolescents and young adults, was appreciably greater than the male death-rate. This feature is due in large measure to the mild incidence of plague (to which females are peculiarly liable), whilst, as already stated, the conspicuous reduction of the male and female death-rate in children under 5 years of age is mainly attributable to the absence of malaria in epidemic form.

16. **The Death-rate by Religions and Classes.**—The main features respecting the incidence of deaths amongst the different religions and classes of the population are shown in Table VII.

Annual Form No. IV.

TABLE VII.

Race, Religion or Class.	Death-rate.			Death-rate *per mille* of population under one year.	
	Total.	Male.	Female.	Male.	Female.
Mohammadans	26·51	26·34	26·72	178·12	157·70
Hindus	28·68	28·01	29·51	194·94	173·37
Indian Christians	24·76	25·58	23·78	148·52	121·53

The figures given in Table VII thus show, as is customary in a year unassociated with widespread epidemics, that the total death-rate and the infant death-rate of Hindus was somewhat higher than the corresponding figures of other races. It is noteworthy, in the case of both Mohammadans and Hindus, that the female exceeds the male death-rate, whilst, in the case of Indian Christians, the reverse is the case.

17. **Births and Deaths amongst Railway Employees.**—During the year under review 66 births and 30 deaths were recorded at railway, stations outside municipal limits, as compared with 21 births and 13 deaths in the previous year. Pneumonia and respiratory diseases accounted for 11 deaths, 9 were attributed to " fevers ", one each to cholera and injuries and 8 to " other causes ".

18. **Births and Deaths amongst Europeans and Anglo-Indians.**—There were 334 births and 122 deaths amongst Europeans and Anglo-Indians, as compared with 335 births and 113 deaths in the previous year. The deaths were classified as follows :—

Pneumonia and respiratory diseases 32 " fevers " 20 ; dysentery 11, injuries, 8 ; small-pox 4 ; and " other causes ", 47.

19. **Births and deaths in Cantonments.**—The number of births and deaths recorded amongst the non-military population of cantonments was 4,493 births and 2,829 deaths which represents an increase of 344 births and a decrease of 305 deaths as comparad with the corresponding figures for the previous year. The deaths were classified as follows :—" fevers," 1,462 ; pneumonia and respiratory diseases, 580 ; dysentery and diarrhoea, 56 ; injuries, 56 ; small-pox, 20 ; cholera, 9 ; plague 9 ; and " other causes ", 637.

Annual Form No. VI-C.

20. **Registration of Vital Statistics.**—No change took place during the year in the mode of registration of vital statistics and it has unfortunately not yet been possible for District Medical Officers of Health to take over the duties associated with the registration of births and deaths. The reports regarding domestic occurrences in rural circles are still made fortnightly to the thana, but it is hoped, when the thanewar system of vaccination comes fully into force, that it will be possible to obtain weekly reports through the agency of the vaccinators attached to thanas. In municipal towns domestic occurrences are reported weekly in accordance with bye-laws framed under the Punjab Municipal Act, but in several of the recently created Small Towns no bye-laws have yet been framed under section 35 (x) of the Small Towns Act, 1922, as amended in 1925, but action has been taken to make good this defect.

The regulations governing the registration of births and deaths in areas under the control of the North Western Railway, but outside municipal limits, have been revised and are now being considered by the railway authorities.

The checking of entries in the birth and death registers is carried out by the vaccination staff during the non-vaccination season and also by revenue officials. During the year under review 759,669 entries in birth registers and 493,208 entries in death registers were checked, these figures representing, as compared with the previous year, an increase of 16,539 entries respecting births and a decrease of 13,703 entries respecting deaths.

The percentage of omissions detected to the total number of entries checked is shown in Table VIII.

TABLE VIII.

	Births.		Deaths.	
	Males.	Females.	Males.	Females.
Vaccination Staff	1·43	1·62	0·89	0·98
Revenue staff	1·88	1·92	1·63	1·62

The highest number of omissions was discovered in the districts of Mianwali, 1,992 ; Gujrat 1,810 ; Dera Ghazi Khan, 1,267 ; and Muzaffargarh, 1,032. Seventeen chowkidars were fined for omitting to register births and deaths, the fines inflicted amounting to Rs. 10/4/0. In municipal towns 306 persons were fined Rs. 227 for failing to report births and deaths during the year.

An attempt has been made to secure the more prompt submission of reports regarding the occurrence of infectious diseases both in municipal towns and in rural areas. In the case of the former, Government sanctioned for one year as an experiment, the grant of a fee (8 annas) for the notification of certain infectious diseases to medical practitioners (and also to vaids and hakims) in Lahore and Simla. The experiment has been concluded but as the report thereon has not been received, the question of extending the system to all municipal towns in charge of whole-time Medical Officers of Health has not yet been considered.

In the case of rural areas, an attempt was made to enlist the services of patwaris and school masters in reporting the outbreaks of epidemic diseases and Government also sanctioned a scheme whereby the Deputy Commissioner may appoint a " reporter " in any thana for this purpose, and a moderate measure of success attended this procedure in certain districts.

Proposals have, however, been submitted to Government, whereby as the result of posting a vaccinator at each thana, it will be possible to provide in every registration circle, a public health agent who will be under the orders of the District Medical Officer of Health and will report direct to him.

Section VI—Chief Diseases.

21. **Cholera.**—After five uneventful years, the Punjab experienced in the year 1927, an epidemic of cholera of unusual intensity as the result of which 11,286 persons (6,613 males and 4,673 females) lost their lives. The cholera death-rate was 0·55 *per mille* (0·59 males and 0·50 females), as compared with the mean death-rate of 0·06 *per mille* during the preceding five years.

Annual Form No. VII.

The cause of this outbreak is not obscure It was the direct result of the Kumbh Mela held at Hardwar in the month of April. The important influence exercised by these fairs upon the incidence of cholera in the Punjab is wellknown. In the Annual Sanitary Reports of this Province the remark occurs with the utmost regularity, whenever an Adhkumbh or Kumbh Mela is held at Hardwar, that the Punjab was afflicted with a severe epidemic of cholera as the result of infection brought back by pilgrims returning from this fair. The year 1927 coincided with a Kumbh Fair at Hardwar and the outbreak of cholera in the Punjab was once more traced to infection acquired at this fair. The influence of these six-yearly fairs upon the incidence of cholera in the Punjab is illustrated in Chart III (Appendix D.), but it will also be observed from a scrutiny of this chart, that the greatest cholera epidemic on record occurred in the year 1892, or in the year immediately following a Kumbh Mela, but even this exception to rule is apparent rather than real since the Sanitary Report for the year 1892 states that a fair of exceptional magnitude took place at Hardwar in this year and that cholera appeared in the Punjab immediately after the return to their homes of cholera-infected pilgrims. Cholera, so far as is known, is not endemic in the Punjab, and whatever other cause may be concerned in determining its six-yearly periodicity, it is clearly necessary to recognise the part played by the great religious gatherings held at Hardwar.

The history of the outbreak in the year under review is briefly as follows. Cholera was, as usual, completely absent from the Province during the winter; in fact, from October 1926 to February 1927 not a single case of the disease was detected. In February and March a few isolated cases were observed in five districts, but the diagnosis was always in doubt and in no instance did more than one case occur in a village. Pilgrims began to return from Hardwar early in April and from this time onwards reports were received of small outbreaks of cholera confined for the most part to the returning pilgrims, but it was not until after the culminating days of the fair (April 14th and 15th) that these reports became numerous. In some instances cholera declared itself during the return journey, but more often immediately after arrival. In others, a week or ten days elapsed before the disease declared itself, in still others the pilgrims themselves escaped, whilst their relatives and friends, who were sometimes the recipients of ceremonial water and sweetmeats brought from Hardwar, fell victims to the disease.

Within a week of the conclusion of the fair, fifteen districts were infected in this manner and some 100 cases and 48 deaths took place in what may be termed the primary foci. By the beginning of May the vast majority of the pilgrims had returned to their homes and the history of the epidemic during this month comprised the spread of infection to a number of other villages (secondary foci), which, in turn, gave rise to tertiary foci. In this manner a trail of outbreaks, most of which were short lived, continued throughout the months of June, July, August and September, until in the month of October the disease spontaneously disappeared. The most severely infected districts were Lahore (4,070 deaths) and Ferozepore, (3,396 deaths), these two districts accounting for 66 per cent. of the total mortality. Nevertheless, all districts of the Province, with the exception of Mianwali, were infectedt, the districts chiefly involved being Amritsar (652 deaths); Montgomery (502 deaths); Hissar (488 deaths); Ludhiana (401 deaths); Lyallpur (261 deaths); Jullundur (225 deaths) and Rohtak (220 deaths). In the majority of villages the number of cases was small and these outbreaks exhibited the characteristics of house infections, being confined to those in attendance upon the sick or sharing the same food. In June and July marriage parties played an important part in the spread

of infection and it frequently happened that the marriage feast was followed by the death of the bride and the bridegroom and a number of the wedding guests; but if on the whole the epidemic did not exhibit the characteristics of water-borne cholera, in certain places explosive outbreaks followed upon the massive infection of the water supply. In Okara, for example, infection of a well by a wandering fakir was followed by the occurrence of 118 cases and 37 deaths within the space of two days. Of a different type was the epidemic which occurred in Kasur (population 31,018) where a prolonged epidemic lasting for a period of two months, was responsible for 632 cases and 330 deaths from cholera. In addition, Kasur was responsible for the widespread diffusion of cholera in the Lahore and Ferozepore districts. In fact 48 villages, in which 718 cases and 509 deaths occurred, were directly infected from Kasur, and from many of these villages (secondary foci) infection was carried to others (tertiary foci).

The disastrous outbreak at Kasur was the outstanding feature of the epidemic and it calls for special comment for several reasons In the first place it was one of the most severe outbreaks of cholera, to occur in any large town for many years. Secondly, the outbreak occurred in a town whose Municipal Committee has long been notorious for its reactionary attitude in public health matters. Thirdly, about a month prior to the appearance of cholera, the conservancy system of the town broke down completely, with the result that the night-soil and street refuse was allowed to accumulate in vast heaps in the streets. Fourthly, after the appearance of cholera, the Municipal Committee refused to carry out the instructions of the Medical Officer of Health in respect of the removal or burning of the night-soil, the importation and sale of fruit and vegetables, and the manufacture of ice and mineral waters, although, in the case of the latter, water contaminated by the city drains was used in their manufacture. As soon as these facts were brought to the notice of Government, drastic regulations under the Epidemic Diseases Act were enforced, with the aid of which the epidemic was quickly brought under control. The last and perhaps not the least notable feature in connection with this outbreak is the fact that, after its conclusion, Government ordered a Commission of Enquiry, composed of two members of the Legislative Council, with the Commissioner of the Lahore Division as President, to enquire into the conduct of the Municipal Committee. This Commission found that "the Committee was guilty of grave neglect of duty" and Government endorsed this verdict by refusing to permit the election of the majority of the members (who had in the meantime been re-elected at a general election) to be notified, thus debarring them from office during the pleasure of Government.

The preventive measures taken to deal with this epidemic followed the usual lines, with the exception that timely preparations, on a scale not hitherto attempted, were made to deal with the threatened danger associated with the Kumbh Mela at Hardwar. In January 1927, District Medical Officers of Health were directed to overhaul their arrangements for securing the prompt submission of cholera reports, to replenish their supplies of medicines and disinfectants and to establish cholera depôts on all important roads and railway stations. It was decided by Government that a special effort should be made to persuade all pilgrims to be inoculated against cholera before their departure for Hardwar, and that the cost of anti-cholera vaccine should be met by Government, instead of by local bodies, for which purpose special grants amounting to approximately Rs. 25,000 were made during the year. Inoculation stations were opened at dispensaries, railway stations and other places for the convenience of pilgrims and widespread publicity, by advertisements in the Press and by means of notices and placards, was given to these arrangements. Few persons were however, willing to be inoculated against cholera in the absence of the disease, and the offer of free inoculation to pilgrims prior to their journey to Hardwar met with a poor response. The use of compulsion, strongly advocated by Sir Leonard Rogers, presented grave difficulties and for the present, and for some years to come, public opinion will not be ripe for so drastic and so novel a procedure.

Nor were the elaborate precautions adopted at Hardwar successful in preventing the spread of infection to the Punjab. It is stated that only 58 cases of true cholera occurred at Hardwar during the period of the fair,

yet in spite of medical inspection of the pilgrims on their arrival and departure, in spite of the offer of free inoculation at Hardwar and elsewhere, in spite of the expenditure of vast sums upon sanitary precautions and the provision of a piped water supply, the returning pilgrims were responsible for starting an epidemic of greater intensity than has occurred in the Punjab on the many occasions when no serious effort was made either at Hardwar or elsewhere, to "control" the disease.

The lesson taught by this epidemic is that our knowledge of the epidemiology of cholera is gravely incomplete and that our present methods of "control" are inadequate and undependable. Until, therefore, science provides some new and more effective methods of combating cholera, the main hope of mitigating the incidence of the disease lies in setting our sanitary house in order and in creating, in this manner, an environment inimical to the spread of infection. So long as the sanitary condition of our town remains in their present deplorable condition (there are many Kasurs in the Punjab), so long will the Province be at the mercy of Hardwar and other fairs. Many monsoons must pass before appreciable progress along the strait and narrow path leading to sanitary salvation can be achieved, but the punishment meted out to Kasur (which is at present without a water supply, without a drainage system and without a conservancy system worthy of the name) will not have been in vain, if it teaches local bodies that they must take a more serious view of their duties as guardians of the public health.

22. **Small-pox.**—The recorded mortality from small-pox during the year under report was 9,920 (0·45 *per mille*) as compared with 17,595 (0·86 *per mille*) during the previous year and an average annual mortality of 6,484 (0·32 *per mille*) during the preceding five years.

Annual Form No. VI.I.

Small-pox exhibits a tendency to become epidemic once in about every five years and, as will be seen by a reference to Chart IV (Appendix D) the year 1926 coincided with the peak of one of these waves. The decline of the wave is slow and it is customary for small-pox to be abnormally prevalent in the year immediately following that in which an epidemic occurs. Herein lies the explanation of the fact that the small-pox mortality in the year 1927 was a little more than half of that of the previous year but more than half as much again as the mean quinquennial figure.

Every district of the province, as usual, contributed its quota, but the small-pox death-rate was above the provincial mean figure (0·48 *per mille*) in the following districts: Montgomery (1·25); Hoshiarpur (1·19); Dera Ghazi Khan (1·12); Sheikhupura (1·11); Lyallpur (0·95); Gujranwala (0·83); Lahore (0·81); Gujrat (0·54); Amritsar (0·52); Shahpur (0·50) and Sialkot (0·49).

The age distribution of mortality exhibited no abnormal features, but it may be remarked that 26 per cent. of the total deaths occurred amongst children under one year of age, as compared with 30 per cent. in the preceding year, whilst 50 per cent. of the deaths occurred amongst children between the ages of one and ten years, as compared with 46 per cent. in the preceding year. Comparing the years 1926 and 1927, the total number of deaths amongst children under ten years of age was 7,563 (76 per cent.), as compared with 13,274 (76 per cent.) in the previous year.

The age distribution of small-pox mortality in the years 1926 and 1927 was thus as follows :—

Age-Groups.	*1926.*	*1927.*
Under 1 year	30%	26%
1-10 years	46%	50%
Over 10 years	24%	24%

It would thus appear that in a year when small-pox is epidemic (1926) children under one year of age are attacked with relative frequency as compared with the children over one year and under ten years of age, and, since

the former age-group invariably comprises a relatively large proportion of unprotected children, the above figures may be regarded as another exemplification of the maximum, enunciated elsewhere*, that the age-group to be most frequently attacked during any epidemic of disease is that which, at the moment, is least protected by natural or acquired immunity.

As usual, the female sex suffered slightly more than the male sex, as judged by the recorded mortality, the rates being 0·46 *per mille* in the case of males and 0·51 *per mille* in the case of females or an excess of females at the rate of 0·05 *per mille*, as compared with 0·06 *per mille* in the previous year. So far as the primary vaccination of infants is concerned, males and females are on an equal footing, but relatively few adult females present themselves for re-vaccination and this circumstance probably accounts for the fact that the total female death-rate from small-pox is slightly higher than the male death-rate.

As regards seasonal incidence, the highest monthly mortality, which usually occurs in the month of either May or June, was recorded in the month of May when 1,267 deaths occurred, and the sole abnormal feature of the year under review was relatively high mortality during each of the first three months of the year —a feature probably associated with the slow decline of the epidemic of the previous year.

The incidence of the disease in urban and rural areas presented no abnormal features since, as usual, the urban death-rate from small-pox exceeded the rural death-rate, the figures being 0·67 *per mille* in the former, as compared with 0·46 *per mille* in the latter. The average rate for towns in which the Vaccination Act is in force (but is feebly enforced) was 0·64 or 0·03 *per mille* less than the small-pox death-rate of all towns. Out of the 171 towns in the province, 53 reported no deaths from small-pox as compared with 36 during the previous year. Lahore and Amritsar cities, as usual, had a relatively high small-pox death-rate (1·28 *per mille* and 1·44 *per mille* respectively) and some of the smaller towns were even more severely affected. In Una, for example (population 4,603) 48 deaths were reported (10·43 *per mille*); in Batala 63 deaths (2·41 *per mille*); in Gujranwala, 136 deaths (3·59 *per mille*); and in Bhera the small-pox death-rate was 2·70 *per mille*.

The question of vaccination will be dealt with in a separate report, and it only remains to add that there is no hospital in the Punjab exclusively reserved for the treatment of small-pox. At the Infectious Diseases Hospital Simla, certain wards are set apart for small-pox, but the arrangements elsewhere for the isolation and treatment of infectious diseases, including small-pox, are of the most primitive description. In Lahore a new Infectious Diseases Hospital is under construction whilst the building known as the Infectious Diseases Hospital at Amritsar has been condemned and the Municipal Committee has been urged to erect a new hospital in a more suitable situation.

23. **Plague.**—A new plague cycle, which opened with the great epidemic in the year 1924, came to an end in the year under review when the total recorded mortality fell to 8,452 in British districts or, including Punjab States, 10,512. The plague death-rate of British districts was 0·41 *per mille* (0·37 males and 0·46 females) as compared with 5·25 *per mille* (4·77 males and 5·89 females) in the previous year, and 4·44 *per mille* in the preceding quinquennium. (See Chart V, Appendix D).

Annual Form No. XII.
Statement No. 1.

Distribution.—The epidemic of the previous year left behind it a legacy of plague in 17 districts and these same districts were again mainly affected in the year under review; but, whereas in the year 1926 the districts in the south-east of the province (Rohtak, Karnal, Hissar and Ambala) bore the brunt of the epidemic, the districts of Sheikhupura, Ferozepore, Sialkot, Gurdaspur, in the centre of the province were chiefly affected during the year 1927.

Apart from this fact, the disease exhibited two unusual, though not unique, features; the first was the occurrence, in an otherwise plague-free

*"The Genesis of Epidemics" (page 461).

tract, of a moderately severe outbreak in the city of Multan, and the second was a small outbreak of plague during the months of July and August at the hill station of Kasauli (5,500 feet above sea-level). The urban and rural death-rate was 0·13 and 0·41 *per mille* respectively; the towns, as usual in mild plague years, showing a slightly higher death-rate than rural areas.

Course of the epidemic. —In spite of the fact that 17 out of 29 districts were infected at the beginning of the year, the epidemic was slow in emerging and of low diffusive power, so that the mortality during the month of maximum prevalence (April) reached only the small figure of 3,078 as compared with 86,469 in the preceding year. During May and June the disease declined with unusual rapidity and completeness, and only 3 deaths from plague were recorded in the province in August and 13 in September. During the last 3 months of the year the disease recrudesced in eight districts, but the total mortality in December 1927 was 127 as compared with 2,805 in the corresponding month of the preceding year.

The main features of the year were therefore the mild incidence and low diffusive power of the disease, its rapid and complete decline in May and June, and its re-appearance in a restricted number of localities, mainly in the districts of Gurdaspur, Ambala and Hoshiarpur, during the last three months of the year.

Anti-plague measures were conducted on the usual lines. During the "off-season" rat destruction was carried out systematically not only in localities where "incomplete" epidemics occurred during the previous plague season, but also in villages in their vicinity, as experience has shown that plague is peculiarly prone to appear in these villages early in the following plague season.

In the districts of the Ambala Division, owing to the fact that additional staff and funds were provided by Government, anti-plague measures were carried out with exceptional thoroughness, and a considerable effort was made to educate the people, with the aid of magic lantern lectures, health songs, dramas, posters, etc., in the means and methods of warding off plague.

In other Divisions, owing to paucity of staff and funds, anti-plague measures were carried out on a less ambitious scale, but monetary assistance from provincial sources, to the extent of Rs. 1,16,122 was given to local bodies to assist them in carrying out anti-plague measures.

After plague appeared in epidemic form efforts were concentrated upon the inoculation of contacts, the evacuation of infected houses, and disinfection. The number of inoculations performed was 138,790 (103,240 in British districts and 35,550 in Punjab States). Plague inoculation (*in the presence of plague*) is now a measure in which the people rightly place great confidence, and the fact that the number of inoculations in the year 1927 was approximately 7,00,000 less than the figure for the preceding year is merely indicative of the mild nature of the epidemic in the year under review.

24. **Fevers**—The deaths registered under the head of "fevers" numbered 358,679 as against 436,156 in the previous year. The death-rate was 17·48 *per mille* as compared with 21·26 *per mille* in the previous year, and a mean death-rate of 19·66 *per mille* in the preceding five years.

Annual Form No. IX.

The most striking feature in respect of the "fever" mortality was the abnormally low figures in the months of October and November, the number of "fever" deaths during these two months was, in fact, 37,825 less than the mean figure of the preceding five years. This circumstance, as already stated is due to the unusual mildness of autumnal malaria and the almost complete absence of epidemic malaria. The year 1927, from the point of view of malaria, was, in fact, one of the healthiest years on record. Another conspicuous feature of the monthly incidence of "fever" mortality is the relative high "fever" mortality during the months of January and February—the figure being 3,289 in excess of that of the previous year—which is mainly due

to the occurrence, in certain districts, of an epidemic of influenza, and it is as the result of this circumstance, in association with the low "fever" mortality, in the autumn, that the "fever" mortality in January 1927 exceeded that of any other month of the year—an event without parallel in the recent history of the Punjab.

All districts, with one exception, participated in the decline of the "fever" mortality, as compared with the previous year, the exception (Mianwali) showing an increase of 0·31 *per mille*. Fourteen districts showed a higher "fever" death-rate than the provincial rate (17·48), the most conspicuous being Hoshiarpur (22·79); Mianwali (22·24); Gurgaon (21·62) and Muzaffargarh (21·17).

The urban and rural "fever" death-rate was 12·00 and 18·11 *per mille* as compared with 15·39 and 21·93 *per mille* in the previous year.

It may be remarked that although epidemic malaria was generally conspicuous by its absence the malaria forecast—the seventh to be issued—correctly designated on September 1st, 1927, certain small areas in Gurgaon, Rohtak, Hissar, Hoshiarpur and Sialkot districts where mild and restricted outbreaks of malaria would occur during the months of October and November.

The method of forecasting malaria epidemics worked out in the Punjab is now employed in Italy and South Africa, but the attitude adopted towards these forecasts in certain quarters in India led the *Indian Medical Gazette* to make the following remarks:—

> "A curious result of the publication of these forecasts is that their author has been taken to task by the *Statesman* of Calcutta, who considers that 'it is both unusual and wrong for health authorities to issue forecasts regarding the occurrence of epidemics, as if they were crops or the monsoon'. We confess we had not suspected the existence of fundamentalists in the office of the most enlightened daily paper in India. If public health authorities are not to be allowed to attempt the intelligent anticipation of epidemics and to take measures before hand, we may as well abandon all attempts at preventive medicine in this country and leave it 'to the sweet reasonableness of Nature' to kill off the excess population by famine and disease. Anyhow, the Meteorological and Agricultural Departments are allowed forecasts; so why not the Public Health Department?"

It may be said, on behalf of the uninformed critics, that they have at least been the means of fulfilling the shrewd forecast regarding the honour accorded to prophets in their own country.

25 **Dysentery and Diarrhoea** —There were 11,133 deaths (0.54 *per mille*) recorded under the comprehensive head of dysentery and diarrhœa, the death-rate being the same as in the previous year and slightly higher (0·04 *per mille*) than the mean figure of the five preceding years. The male and female death-rate were approximately equal (0·54 males as compared with 0·55 females).

Annual Form No. X.

The most conspicuous feature of the district death-rate was the high death-rate in the districts of Kangra (3·98 *per mille*) and Rawalpindi (2·83). The rate was also relatively high, as compared with the provincial mean figure, in the districts of Jhang (0·94); Lahore (0·92); (Simla 0·83) and Gurdaspur (0·81).

As regards seasonal prevalence the deaths recorded under this head underwent a sharp rise in May and a smaller rise in September and October, at which seasons of the year dysentery and enteric fever are peculiarly apt to prevail.

The urban death-rate, as usual, exceeded the rural death-rate, the former being 1·27 *per mille* as compared with 0·46 *per mille*. Some of the

large towns exhibited a distinctly high death-rate, more specially Jullundur, (2·50) ; Ludhiana (2·37) ; Multan (2·48) ; and Lahore (2·04).

No exact information is available regarding the nature of the diseases classified under this head, but it is known, in the case of Kangra district, that enteric fever during the autumn and hill diarrhoea during the summer are prevalent in this district and it will not, therefore, be expedient to open hill sanatoria in the Kangra Valley until arrangements have been made to provide a supply of pure drinking water.

It is also known that in the large towns bacillary dysentery is extremely common, but no appreciable reduction of mortality from this disease can be expected until the primitive methods of conservancy, which almost everywhere prevail, have been abolished. Many Municipal Committees are content to discharge their duty as guardians of the public health by handing over their responsibilities in respect of conservancy to contractors, who remove the night soil and street sweepings (when it suits them to do so) from open spaces in the main streets, appropriately termed "filth depôts", to dumps located alongside the roads in the immediate outskirts of the town The result of the adoption of this procedure, combined with the absence of refuse destructors and incinerators, is almost invariably to render the town and its immediate neighbourhood a foul and offensive area, and it is therefore not difficult to understand why deaths from bowel complaints should be nearly three times more numerous in urban than in rural areas.

26. **Respiratory Diseases.**—Diseases of the respiratory system accounted for 56,915 deaths or 2·77 *per mille*, which constitutes a decrease of 0·03 *per mille*, as compared with the preceding year, and an increase of 0·39 as compared with the mean death-rate during the preceding quinquennium.

Annual Form No. XI.

The term "respiratory diseases", like the word "fevers" is a comprehensive term which includes deaths from pneumonia, influenza, typhus, relapsing fever, pneumonic plague and pulmonary tuberculosis and it is only possible to interpret these statistics in the light of a knowledge of the incidence of these diseases.

Relapsing fever, typhus and pneumonic plague were conspicuous by their absence during the year under review and it may be concluded that the increase of the respiratory disease death-rate during the year under review, as compared with the quinquennial mean figure, is mainly indicative of the unusual prevalence of influenza and that the small decrease, as compared with the previous year, is due to the relatively high incidence of pneumonic plague in the year 1926.

27. **Influenza.**—Ever since the great epidemic in the year 1918 more or less widespread outbreaks of a mild type of influenza have occurred every winter in the plains of the Punjab.

In January and February 1927 the disease was both abnormally prevalent and unusually fatal. Accurate data are not available as deaths from influenzal pneumonia are recorded as due either to "fever" or to pneumonia. A rough estimate of the distribution and intensity of the disease can, however, be obtained by calculating the mortality above the mean under these two heads and it is in this manner found that the excess mortality during the months of January and February 1927, amounted to approximately 24,000 deaths in the case of "fevers" and 7,600 deaths in the case of respiratory diseases.

The disease was chiefly prevalent in the south-east and central districts of the province, the districts mainly affected being Rohtak, Gurgaon, Karnal Ambala, Jullundur, Ferozepore, Amritsar, Gurdaspur, Sialkot, Montgomery, Lyallpur, Gujranwala and Sheikhupura.

The Public Health Department suffered the loss of a promising recruit in the person of Major Billimoria, I.M.S., who succumbed to an attack of influenza contracted during the course of his first tour as Assistant Director of Public Health of the Ambala Circle.

28. **Pulmonary Tuberculosis.**—No method of determining with accuracy the incidence of pulmonary tuberculosis in rural areas is available and, although the notification of the disease is compulsory in municipal towns, little reliance can be placed upon the accuracy of the statistical data.

The respiratory disease death-rate is invariably relatively high in towns, as compared with rural areas, and it is known that this fact is largely due to the high incidence of pulmonary tuberculosis amongst the urban population.

In the year under review the urban death-rate was 6·41 *per mille*, as compared with a mean death rate of 5·43 in the preceding five years, whilst the rural death-rate was 2·35 in the year 1927, as compared with a mean death-rate of 2·04 in the preceding quinquennium. The increase of the death-rate in the year under review is mainly attributable to influenza, but the excess of the urban over the rural death-rate, which is a constant feature in the Punjab, is largely ascribable to pulmonary tuberculosis.

The respiratory disease death-rate of the large cities was as follows:—Amritsar 13·46; Sialkot 11·37; Ludhiana 9·52; Lahore 9·02; Multan 8·41; Jullundur 7·48 and Rawalpindi 6·91 *per mille.*

These high figures are mainly indicative of the ravages of the white plague in the cities and towns of the Punjab and they are at once the reflection and the outcome of the gravely insanitary conditions prevailing in municipal towns.

The prevalence of pulmonary tuberculosis, thanks largely to health propaganda, is attracting public attention to an increasing extent and an insistent demand has arisen for the provision by Government and by local bodies of sanatoria. It may readily be conceded that the need exists for institutions of this nature, but this admission must not be allowed to obscure the fact that the true objective of Municipal Committees is or should be the eradication of the environmental conditions responsible for the prevalence of the disease. Some part in the production of pulmonary tuberculosis must be attached to the seed and some to the soil, but a part of even greater importance must be attributed to the environment. A Municipal Committee, therefore, that fails to provide for the prompt removal and disposal of filth and refuse, that neglects to provide a drainage scheme or to keep its existing drains in order, that permits encroachments and projections (which excludes life-giving light and air), that passes, at the instance of the ward member concerned and in direct defiance of expert advice, every building plan placed before it, that refuses to make bye-laws or, if they be made, fails to enforce them, is indirectly responsible for creating an environment in which pulmonary tuberculosis (and other diseases) must necessarily flourish. The true solution of the tuberculosis problem is therefore sanitation, not sanatoria, and although the latter may, in some instances, restore the sick, the provision of sanatoria, in the absence of efficient municipal administration, will never enable any appreciable "control" to be obtained over the disease.

29. **Injuries.**—During the year under report 6,776 deaths (0·33 *per mille*) occurred as the result of injuries, as compared with 6,514 (0·32 *per mille*) in the previous year and an average death-rate of 0·31 during the previous five years.

Annual Form No. VI-B.

The deaths were classified as follows:—Suicide, 248 (142 males, 106 females); wounds 760 (620 males, 140 females); accidents, 4,848 (2,857 males, 1,991 females); rabies, 108 (79 males and 29 females); snake bite, 705; and injuries inflicted by wild beasts, 107.

The figures under these heads exhibit only minor fluctuations from year to year, but attention may be called to the steady rise in the number of fatal accidents, mainly confined to men, during the past four years, which is possibly attributable to the increased use of motor cars as a means of transport.

The number of recorded deaths from rabies shows a decrease of 64 as compared with last year, and 41 as compared with the mean figure of the

preceding five years. As usual, the recorded number of deaths from hydrophobia was almost twice as great amongst males as females. During the year 3,403 patients (252 Europeans and 3,151 Indians) underwent anti-rabic treatment at the Pasteur Institute, Kasauli, as compared with 3,399 (340 Europeans and 3,059 Indians) in the previous year. In addition 2,167 persons (137 Europeans and 2,030 Indians) underwent the treatment at the King Edward Medical College, Lahore, as compared with 2,178 persons (197 Europeans and 1,981 Indians) in the previous year. The Lahore centre is, therefore, gaining in popularity in spite of the fact that those extensively bitten by rabid animals and those bitten on the face are sent to Kasauli for treatment with aetherised vaccine.

30. **All Other Causes.**—The total number of deaths registered under this head numbered 100,185 (53,738 males and 46,447 females). This figure represents a death-rate of 4·88 *per mille*, which is 0·59 *per mille* less than that of the previous year and 0·03 *per mille* less than the quinquennial mean figure.

The highest rates were recorded, as last year, in Simla, (16·90); Gurgaon, (8·62); Gurdaspur, (8·44); and Ludhiana, (7·61), whilst the lowest rates were recorded in Muzaffargarh, (1·34); and Dera Ghazi Khan, (1·79).

SECTION IX.—Public Health Works.

31. Thanks to the favourable financial position and the progressive policy of Government, an extensive programme of engineering works designed to promote the public health in urban and rural areas was undertaken during the year. In the case of towns, the Urban Sanitary Board which has not yet reached its full stature as a Board of Public Health, assisted local bodies to carry out 41 approved public health works by giving grants to the extent of Rs. 7,37,233-8-0. The Rural Sanitary Board, whose title has recently been changed to the Rural Sanitary and Improvement Board, has likewise been actively engaged in carrying out extensive schemes to improve land drainage and to prevent the occurrence of flooding and water-logging in rural areas. Finally, the grave problem of water-logging in canal irrigated tracts has continued to receive the close attention of the Irrigation Department and, as a result of the activities of the Water-logging Committee guided by the investigations of the Scientific Officer attached to the Committee (B. H. Wilsdon, Esquire, M.A., B.Sc.), the amount of canal water is now regulated on principles that permit of successful agriculture without occasioning a serious rise of the water table.

The Public Health Department is not directly in touch with the Water-logging Committee, but this matter is one which closely concerns the public health and, as such, it requires mention in this report.

32. **Urban Sanitation.**—The report on the activities of the Urban Sanitary Board is given in Appendix A of this report, whilst the report of the Sanitary Engineer to the Punjab Government, whose title has recently been changed to that of Superintending Engineer, Public Health Circle, is given in Appendix B.

The province is divided, for the purpose of Public Health Works, into three Divisions, each in charge of an Executive Officer with special knowledge of sanitary engineering. It will be seen that the work performed by the Sanitary Engineering Department covered a wide field, 23 preliminary projects were prepared, 21 new schemes were commenced and 20 projects were completed during the year. The works under construction included 34 projects undertaken on behalf of Government (provincial works) and 27 on behalf of Local Bodies (contribution works), the total estimated cost of the detailed projects (major works) prepared during the year being Rs. 8,16,593 (provincial works) and Rs. 44,48,412 (contribution works).

Income and expenditure of Municipalities.

33. During the year 1926-27 the number of municipalities in this province was 105. Their aggregate income during the year, including the opening balance of Rs. 40,95,955, and Rs 12,41,830

under the heads "extraordinary" and "debts", amounted to Rs. 1,93,71,767. The total expenditure by these Municipal Committees on public health and vaccination comes to Rs. 43,31,809 as detailed below :—

(1) Water Supply,	12,07,551
(2) Drainage,	9,29,487
(3) Conservancy, including road cleaning and watering, latrines	17,04,536
(4) Charges on account of Medical Officer of Health and Sanitary Inspectors,	1,96,138
(5) Plague charges,	1,49,029
(6) Vaccination,	39,910
(7) Other sanitary requirements,	23,557
(8) Markets and slaughter-houses,	53,324
(9) Registration of births and deaths,	13,701
(10) Burning and burial of paupers.	14,576

The new sanitary works, when completed, will add to the amenities of life in municipal towns, but it cannot be too strongly emphasised that, unless they are worked efficiently and adequately maintained, they will not exercise any material effect upon the public health. Efficient municipal administration is indeed the crying need of the moment, and, as indicated in preceding paragraphs of this report, this desideratum is an essential condition of any real progress along the path of sanitary reform.

The total income derived from the sale of street sweepings in all municipal towns amounted to the small sum of Rs. 2,25,098, of which Rs. 38,910 was realised in Lahore and Rs. 44,525 in Sialkot. The corresponding figure in the year 1926 was Rs. 2,35,542, so that a reduction of approximately Rs. 10,444 occurred during the year under review. There was also a decrease of Rs. 4,684 in the income derived from land under sewage irrigation, whilst the acreage of land showed a slight reduction from 1420·96 acres in 1926 to 1419·64 acres during the year under review. These are unsatisfactory features and the complaint of financial stringency, which is almost invariably made whenever some much needed sanitary reform is suggested, must be countered by the statement that Municipal Committees in most cases have only themselves to blame, since, by reasonably efficient management, they should be in a position to meet a large portion of the cost of an efficient system of conservancy out of the revenue derived from the sale of sullage and street sweepings.

34. **Rural Sanitation.**—In rural areas, and more especially in water less tracts, Government assistance has been freely given to improve village water-supplies and extensive water-supply schemes have been undertaken in Jhelum and Shahpur and other districts. The importance of large fairs as a means of spreading disease, more especially cholera, has also received attention, and at Nurpur in the Rawalpindi district and at Katas in the Jhelum district, a standpost supply of pure drinking water has been installed for use at the important fairs held at these places, whilst similar projects are to be undertaken at Jawalamukhi in Kangra district and at Thanesar, for use during the Jawalamukhi and Sun Eclipse Fairs, respectively.

In contrast with the slow rate of progress in urban areas, an apparently rapid advance has been made in the sphere of rural "uplift". Thanks largely to the zeal, enthusiasm, and, it may be added, the originality of F. L. Brayne, Esquire, I.C.S., Deputy Commissioner, Gurgaon (ably seconded by his wife, who recently received the Kaisar i-Hind medal in recognition of her labours) the age-old problem of village sanitation has entered upon a new and promising phase. An account of the methods employed in Gurgaon has recently been published by Mr. Brayne in his book, "Rural Uplift", and it will therefore suffice to state that rural "uplift", embraces (in its public health aspect) the removal of manure from the village site, its burial in pits, the cleansing of the village site, the segregation of offensive trades, and the protection of village water-supplies. It may be that these measures, which, with variations,

are now being imitated and extended in other districts, will not exercise much influence upon the death-rate, but there can be no doubt, assuming they have behind them the moral support, and not merely the passive concurrence of public opinion, that their psychological effect will prepare the way for the creation of a new heaven and a new earth in the countryside. The changed appearance of many villages in the Gurgaon district, where the scheme has attained its maximum expression, is, indeed remarkable, and it is much to be hoped that the movement will survive the departure of its originator.

The District Board, Hissar, passed a set of rules for the improvement of rural sanitation and, in some villages, Sanitation Committees have been formed to work them. In Rohtak District sanitary rules are in force in 16 villages, but the village committees have hitherto taken little interest in enforcing them but, on the initiative of the Deputy Commissioner and the Rural Community Council, considerable progress in improving rural sanitation has been made throughout the district. The Revenue Officers of the district and the Zaildars, and other enlightened members of rural population, are members of the Council, and its resolutions have been given practical effect to in large number of villages. As in the case of Gurgaon, the item placed first on the list is the removal of manure heaps from the village. The "pitting" of manure is also practiced and the use of these pits as latrines by women and children is increasing. The villagers have also made arrangements for the periodical sweeping of lanes for which purpose either monthly wages are paid to the sweepers or they are remunerated in kind at harvest-time.

In Karnal district the District Board has appointed health committees in no less than 55 villages in the Panipat tahsil alone. Similar measures have been adopted in two zails (Bhurewala and Haveli Khurd) of the Ambala District, and in a few villages in other parts of the district.

In Sialkot District 80 village Sanitation Societies were formed during the year. The District Board, Sheikhupura, has passed regulations for the improvement of village sanitation and these rules have been sent to Government for approval, whilst the District Board, Shahpur, has adopted bye-laws similar to those made by the District Board, Hissar.

Income and Expenditure of District Boards.

35. The aggregate income of District Boards, including the opening balance of Rs. 46,90,271 amounted to Rs. 2,52,89,548 and their expenditure upon sanitation and vaccination to Rs. 8,75,816. The gross income exceeded that of last year by Rs. 27,93,084 and their expenditure by Rs. 36,94,038. Any progress made by voluntary effort, aided by propaganda, can only be consolidated, if it is incorporated into every day practice. Unfortunately, owing to paucity of funds or to a lack of comprehension of the nature of sanitary problems and the methods by which they must be tackled, District Boards are frequently unable or unwilling to provide the necessary staff, medicines, and equipment to meet the needs of the rural population. The position is in fact one of stale-mate, but a detailed scheme has been drawn up showing the minimum requirements of each District Board in the sphere of public health, the amount which the Board can provide on the basis of 6 per cent. of its income, and the balance required to make good the deficiency. This scheme is now before Government, but no decision has been reached pending a re-examination of the financial position of District Boards.

36. **Income and Expenditure of Small Town Committees.**— The total income of the 109 Small Town Committees in the Punjab amounted to Rs. 8,90,000 whilst their expenditure on conservancy and sanitation was Rs. 3,15,000 which sum, however, includes over a lakh of rupees paid by the Committee of Chak Jhumra for a drainage scheme, to which the Urban Sanitary Board contributed Rs. 65,000. The expenditure upon water supply schemes amounted to Rs. 87,000, but over Rs. 50,000 of this sum was spent upon water works in Bhalwal and Toba Tek Singh and in 82 Small Towns nothing was spent on improving the water-supply.

At present the majority of these Small Towns are without a Medical Officer of Health, and as the Small Town Committee rarely contain a single

member with a knowledge of medicine or public health, progress is necessarily slow, but it is hoped that this defect will be remedied in the near future. Inherent defects of site and lay-out cannot readily be remedied, but this does not apply to the model and other towns and *mandis* now springing up in the new Canal Colonies and elsewhere, and the provision made for safeguarding health in these towns is receiving the close attention of the Public Health Department.

Works of Public Utility by private individuals.

37. A list of the works of public utility constructed during the year 1926-27 by private individuals at their own expense is given below :—

Ambala Division—Hissar District.—One well at a cost of Rs. 3,000 by Balak Ram, son of Net Ram, Mahajan, village Saman. One well at Rs. 200 by Jiwan, son of Bahadur, Bhola, son of Nanak Ram, of village Sadhanwas. A well, a Dharmsala and a Ghat on the tank at a cost of Rs. 25,000 by Jiwa Ram, son of Ram Gopal, Mahajan of village Dhanana. A Dharmsala and a well at a cost of Rs. 6,000 by Mst. Nanhi, widow of Shadi, Jat, of village Umra. A well at a cost of Rs. 500 jointly made by villagers of Kheri Gangan (Thola Ghuda). A well at a cost of Rs. 3,250 by Chaudhri Puran Chand, son of Khewan Ram, of Sirsa, Mohalla Jandwala.

Rohtak District.—A Dharmsala and a well at a cost of Rs. 700 by Ram Gopal, son of Mangat, Mahajan, Anandpur. A well at a cost of Rs. 300 by Bharat Singh, Lambardar, son of Kuria Jat, Jharot. A Dharmsala and a well at a cost of Rs. 1,000 by Rulia Singh, Mahajan, of Rohat. A Dharmsala and a well at a cost of Rs. 2,500 by Ghorkha, Zaildar, son of Harjas Jat, Kakroi. A Dharmsala and a well at a cost of Rs. 1,500 by Hardwari Lal, son of Channi Lal, Mahajan of Pinana. A Dharmsala and a well at a cost of Rs. 500 by Dewak Ram, Mahajan, of Kailana. A Dharmsala and a well at a cost of Rs. 600 by Chhotu, son of Kanhi Ram, Bohra, of Sitawali. A Dharmsala and a well at a cost of Rs. 600 by Udmi, son of Sri Datt, Brahman, Mahra. A Dharmsala and a well at a cost of Rs. 900 by Bholu, son of Dadha, Mahajan, of Pinana. A Dharmsala and a well at a cost of Rs. 2,500 by Onkar Dass, Mahajan, of Machhrauli. A well at a cost of Rs. 800 by Must. Dharmo, widow of Nand Lal, Mahajan, of Jhojjar. A Dharmsala and a Ghat at Johar, at a cost of Rs. 2,000 by Must. Sarupi, widow of Sis Ram and Must. Man Bai, wife of Harke, Mahajan. A Dharmsala and a well at a cost of Rs. 300 by Mange Ram and Kishna, son of Gulzari, Mahajan, of Hasangarh. A well at a cost of Rs. 500 by Ram Swarup, son of Lal Chand, Jat, of Garhi Sisana. A well at a cost of Rs. 212 by Piare Lal, son of Udmi, Mahajan, of Jasaur Kheri. A well at a cost of Rs. 1,000 by Mohra, son of Nand Lal, Mahajan, of Ratangarh.

Simla District.—A Dharmsala in Lama Mohalla, Kaithu, at a cost of Rs. 20,000 by Lalas Duni Chand and Thakar Das, Shopkeepers, Kaithu Bazar, Simla.

Jullundur Division—Kangra District.—A Baoli in village Jangal at a cost of Rs. 650 by M. Arjan Singh, son of Kahan Singh, Rajput, village Jangal, Tehsil Hamirpur. A Baoli in village Khalet at a cost of Rs. 350 by Thakar Shiv Ram Singh, son of Gantha Rajpur, Khalet, Tehsil Palampur.

Hoshiarpur District.—A well in Drulli village at a cost of Rs. 4,000 by Lal Singh, Rajpur of Drulli, Tehsil Una.

Jullundur District.—A well in Bhogpur School at a cost of Rs. 400 by Sardar Achhar Singh, Zaildar of Laroa, Tehsil Jullundur. Water-works in the compound of Victoria Memorial Hospital, Jullundur City, at a cost of Rs. 5,000 by Lala Tara Chand, Sud, of Jullundur City.

Lahore Division—Lahore District.—A well for drinking purposes near Sujan Singh Wala at a cost of Rs. 750 by Sardar Rachhpal Singh, son of Atam Singh of Hakam Singh Wala, Tehsil Chunian. A well for drinking purposes at Mauza Jamsher Kalan on District Board road, Lahore to Chunian, at a cost of Rs. 350 by Haji Abdullah of Shamkot Nau, Tehsil Chunian. A well for drinking purposes near boundary of Mauza Shamkot Nau at a cost of Rs. 350 by Haji Abdullah of Shamkot Nau, Tehsil Chunian. A well for drinking purposes near Shamkot Kohna, on District Board road to Chunian, at a cost of Rs. 710 by Amir-ud-Din, Safedposh of Shamkot Kohna, Tehsil Chunian, District Lahore.

Gujranwala District.—Construction of drain and pavement in public thoroughfare, at a cost of Rs. 200 by Mahant Ganga Singh, *alias* Sainlok of Muraliwala.

Rawalpindi Division—Shahpur District.—A reservoir for drinking purposes at Khushab at a cost of Rs. 375 by Rai Sahib Mala Tara Chand, Khushab.

Jhelum District.—Paving of the Main Bazar of Bhaun, two-thirds at the expense of others and one-third at a cost of Lala Ganda Mal, of Bhaun.

Rawalpindi District.—Construction of a well at Sukho at a cost of Rs. 300 by Attar Singh of Sukho, Tehsil Gujarkhan.

Multan Division.—No work of public utility was constructed during 1926-27, to serve a sanitary purpose, in this Division.

SECTION X.—Administration.

38. The superior personnel of the department underwent several changes during the year. Lieutenant-Colonel W. H. C. Forster, I.M.S., after holding the post of Director of Public Health during nine eventful years, handed over charge to me on November 10th, 1927, on his transfer from the province to take up the appointment of Inspector-General of Civil Hospitals, Burma. The post of Assistant Director of Public Health (Technical) Epidemiology was held by me throughout the year up to November 28th, on which date Dr. A. H. Butt took over charge until the return from leave, on December 5th, of Major R. C. Malhotra, O.B.E., who occupied the post for the remainder of the year.

On January 17th, Major S D. Billimoria, on being posted to the Province, was appointed Assistant Director of Public Health, Ambala Range, only to succumb some two weeks later, to the profound regret of his colleagues, to an attack of influenza. Two recruits were added to the department during the year, namely, Dr. A. H. Butt, who held the post of Assistant Director of Public Health, Ambala, from the 12th April until the 16th May, when he was transferred to Rawalpindi as Assistant Director of the Rawalpindi Circle; and Dr. A. B. Arora, M.B.E., formerly Municipal Medical Officer of Health, Lahore, who assumed charge of the appointment of Assistant Director of the Ambala Circle on May 16th, 1927.

The net result of these changes was a reduction of one in the number of I. M. S. Officers, but a numerical increase of staff by the addition of one officer. It was expected that the scheme, which has for its object the posting of an whole-time Assistant Director to each of the Civil Divisions (Lahore being excluded) would have materialized during the year, but this hope was not fulfilled.

On the other hand the scheme for provincializing the service of District Medical Officers of Health, which received administrative sanction last year, came into force on April 1st, 1927. The cadre comprises 37 appointments, 28 District Medical Officers of Health, 3 Assistant Epidemiologists, the remaining six appointments consisting of two officers, as a reserve for emergencies, and four as the leave reserve. The existing incumbents of provincial and district board appointments were posted to 21 Districts and six additional appointments were made during the year leaving only one district (excluding Simla) without a whole-time Medical Officer of Health holding a diploma in public health. Officers were also appointed in April 1927 to fill the two reserve posts, one being posted to the Mandi Hydro-Electric Scheme, Jogindranagar, and the other as Medical Officer of Health, Kangra Valley Railway. Out of the four posts sanctioned as the leave reserve, one was filled during the year. It was expected that a nucleus staff (provincial) for district work would be created on April 1st, but the staff originally sanctioned by Government for this purpose was seriously curtailed, so that it was only possible to provide each district with one Sanitary Inspector and one dispenser (normal staff), the remainder of the staff, comprising 24 Sub-Assistant Surgeons, 19 Sanitary Inspectors with 86 mates and 172 coolies, being engaged on a temporary basis for combating epidemics.

One of the most urgent needs of the moment is the provision of whole-time, or even part-time, Health Officers in the Municipal towns and Small Towns, and it is satisfactory to be able to record that some progress was made in this direction. The number of whole-time Municipal Medical Officers of Health remained the same as last year (nine), but three large Municipal towns—Ambala, Sargodha and Lyallpur, agreed to employ a whole time Health Officer on condition that Government met half the cost of their salaries. Government also approved of a scheme whereby private medical

practitioners might be appointed part-time Health Officers of small townships and it is hoped that advantage will be taken of this offer.

To meet the rising demand for Sanitary Inspectors it was decided to increase the number of pupils admitted to the Sanitary Inspectors' class from 25 to 40. Out of these, 34 candidates presented themselves for examination and the Sanitary Inspectors' Certificate was awarded to the 19 successful candidates. Seven Sanitary Inspectors sat for the qualifying examination for promotion to the 1st grade and five satisfied the examiners.

39. **Epidemiological Bureau.**—The work undertaken in the Epidemiological Bureau is steadily increasing in scope and utility. It may be classified under the following heads :—

I.—Malaria Surveys.
II.—Malaria Forecast.
III.—Spleen Census.
IV.—Study of Epidemic Malaria.
V.—Examination of water supplies.
VI.—Experimental work.
VII.—Statistical work.
VIII.—Routine work.

Malaria surveys were carried out at the Medical School for Women, Ludhiana, at Ludhiana town, and at the Chakanwali Reclamation Farm, Gujranwala district. This latter survey has not yet been completed, but, as the result of the former, it was shown that the high prevalence of malaria at the Women's Medical College and in the town of Ludhiana was mainly attributable to the Buddha nallah, whose defects the Rural Sanitary Board is about to remedy.

The forecasting of epidemic malaria has now become a routine measure and it is satisfactory to record that the seventh forecast, which was prepared by Dr. M. Yacob, predicted on September 1st with remarkable precision, the distribution and intensity of epidemic malaria in October and November, small epidemic foci in the Gurgaon, Rohtak, Hoshiarpur, Hissar, Gurdaspur and Sialkot districts being accurately picked out, whilst the rest of the province, as was anticipated, remained completely exempt.

The 27th and 28th provincial spleen census was conducted on standard lines, 89,012 scholars of 782 schools situated in 402 different localities being examined in June 1927, when the provincial spleen-rate was found to be 17·38, whilst in November the spleen-rate of 78,225 scholars of 843 schools situated in 430 localities was 15·84—the small decline of the spleen-rate between June and November being attributable to the mildness of autumnal malaria. The spleen-rate of districts in June and November 1927 is shown in Chart VII (Appendix C.)

The Bureau undertook the bacteriological analysis of water-supplies of a number of existing and prospective towns and data are in this manner being collected which will enable local standards of purity, hitherto lacking, to be drawn up shortly. Thirty analysis were done during the year.

Experimental work included tests of the value of Field's Fly Killer and of fleogen as a pulicide, whilst the statistical work included the study of the relationship of absolute humidity and saturation deficiency to epidemics of cholera, plague and malaria.

The routine work comprised the examination of material—mainly blood-films—sent by the District Medical Officers of Health and others and the collection and identification of mosquitoes and other " carriers " of disease.

Pamphlets on cholera, plague, small-pox, tuberculosis, malaria, antenatal hygiene and child-welfare were prepared for the Red Cross Society, whilst, at the instance of the Education Department, pamphlets on the life histories of the mosquito, house-fly, rat, rat-fleas, and the body-louse were prepared for the use of school-masters.

On December 16th, 1927, the foreign delegates of the Far Eastern Association of Tropical Medicine visited the Bureau where a series of interesting exhibits illustrating the work performed in the Bureau had been prepared for their instruction.

The Bureau was understaffed for a large part of the year, and credit is due to Dr. M. Yacob for the efficient manner in which he discharged his duties, both scientific and administrative, as Officer-in-Charge of the Bureau.

40. **Public Health Equipment Depot.**—Another branch of the department which continues to fill a rôle of increasing utility is the Public Health Equipment Depôt, Jullundur, at which local bodies can obtain, at short notice, reliable drugs, disinfectants, etc., required for use in combating epidemics.

The cost price of the articles purchased by the Department during the year amounted to Rs. 11,829-8-7, whilst the depôt charges amounted to Rs. 4,914-14-0 or Rs. 16,744-6-7 in all. On the other hand the cost price of the articles sold by the Depôt amounted to Rs. 53,907-13-4 and the amount realised by their sale was Rs. 67,820-14-5, thus leaving a profit of Rs. 13,913-1-1 or a net saving, after deducting depôt charges, of Rs. 8,998-3-1, as against Rs. 22,157-15-8 during the preceding year.

The decrease in purchase, sales and profits reflects the small demand for disinfectants and rat poison owing to the healthiness of the year. The decrease in the issue of anti-plague vaccine—1,30,014 doses were issued during the year as compared with 7,42,660 during the previous year—is of course attributable to the absence of a severe epidemic of plague.

Credit is due to Dr. G. C. Sahgal for the smooth and efficient working of the depôt and it is satisfactory to be able to record, on the basis of the report of the Auditor, that the accounts of the depôt are in excellent order.

41. **Chemical Laboratory of the Public Health Chemist.**—The question of the adulteration of food assumed unusual prominence during the year owing to the alarm occasioned by the widespread substitution of artificial ghee for the genuine article. The misconception became rooted in the public mind that artificial ghee was possessed of poisonous properties or, at any rate, was prejudicial to health and drastic measures were advocated for prohibiting its sale.

It was not realised that the deficiency of certain vitamines in artificial ghee of vegetable origin is made good, in the case of people partaking of an ordinary mixed diet, by other food stuffs such as milk and meat, and that the harm resulting from the consumption of artificial ghee (at the price of real ghee) is to the pocket rather than to health.

To prevent fraud it is desirable that action should be taken to ensure that purchasers obtain an article of the nature, quality and substance demanded and local bodies were consequently urged by Government to frame bye-laws limiting the sale of artificial ghee to licensed shops. The Public Health Chemist analysed 64 samples of ghee (as compared with 43 in the previous year) of which no less than 37 samples were found to be adulterated. In addition, 127 samples of water (as compared with 62 in the previous year) were analysed and 53 were pronounced to be unfit for drinking purposes. Three samples of flour and five of milk were also analysed.

Standards of purity in respect of all important food-stuffs have been drawn up and approved by Government, but the dearth of trained chemists, to act as Municipal Analysts, and the absence of properly equipped and adequately staffed Municipal Laboratories, has hitherto prevented full use being made of the Punjab Adulteration of Foods Act, but as one step in the direction of removing this defect, Government decided, at the end of the year, to send the Public Health Chemist on deputation to England to undergo special training in food chemistry.

42. **Education Bureau and Health Propaganda.**—Intensive propaganda in health matters was continued throughout the year. The work performed by District Medical Officers of Health being supplemented and to some extent duplicated by the many semi-official and private organisations

engaged in similar work. To meet the increasing demand for magic lantern slides the staff of the Education Bureau had to be increased by one photographer during the year. The Bureau prepared 6,345 magic lantern slides and 528 new photographs, 104 enlargements and 828 reprints were made. In addition, sets of slides were prepared, for the Central Training College, Lahore, for the Forest Department and for the Punjab Branch of the Red Cross Society.

Lectures, illustrated by lantern slides, are losing their popularity, or at any rate their novelty, owing to the counter-attraction afforded by Demonstration trains, the Cinema lorry of the Rural Community Council and other propaganda "stunts". Arrangments have been made for an extension of the use of the cinematograph in public health propaganda and it is hoped in the near future to provide each Division with a projector and a set of health films, which it is hoped to supplement eventually by locally prepared films.

The chief feature of the year in respect of propaganda was the success achieved, largely owing to its novelty, by the public health exhibit of the Demonstration Train, which, under the able direction of Dr. Harnath Singh, toured the province for some 4½ months—commencing in December 1927, during the course of which it is estimated that approximately 4,59,850 persons inspected the exhibition, 1,46,800 attended lectures and 4,26,400 witnessed the cinema shows.

The charges debitable to the Public Health Department on account of this exhibit amounted approximately to Rs. 9,000 and it may well be that amongst the many thousands who visited the train a few hundred at least derived profit as well as pleasure.

It is clear that health propaganda depends for its success largely upon its novelty, but, whilst in no way depreciating this method of spreading knowledge, words require to be backed by deeds if anything of permanent value is to be achieved. One wonders, for example, how it stuck the bucolic countryman at a certain fair when he was shown an exhibit depicting models of all the latest sanitary appliances, whilst the "actuals" required for his comfort and his convenience were conspicuous by their absence, or what the villager thought of the medical officer whose first action on arriving at the cholera-infected village was to give a magic lantern lecture on the importance of drinking pure water.

43. **Maternity and Child Welfare.**—On April 1st, 1927, the Punjab Health School was taken over by Government from the Lady Chelmsford League, whilst the staff of the school, comprising the Principal, the Superintendent and the Assistant Superintendent, were engaged on a three years' contract in the first instance. The Punjab can thus claim the distinction of being the first province in India to recognise the importance of maternity and child-welfare by providing facilities for the training of Health Visitors.

Eight students obtained the Health Visitors' diploma in April 1927 and were immediately provided with posts. The 1927-28 session opened on October 12th with eight students, which is at present all that can be accommodated without overcrowding in the school and the attached hostel. It is hoped in the near future to rebuild and enlarge the school, and thus enable 24 students to be admitted each year. It will, however, be difficult, unless the service of Health Visitors is provincialised, to obtain an adequate number of suitable candidates.

During the year 28 qualified Health Visitors, as compared with 19 in the previous year, were employed by Local Health Committees under the general guidance of Miss Simon in her capacity as assistant to the Director of Public Health for maternity and child-welfare. It should be mentioned that all these centres were inspected on one or more occasions during the year, and it is satisfactory to be able to state that work in all recognised centres was being conducted on sound lines. Lack of funds, and uncertainty as to the attitude of Government in respect of grants-in-aid, alone prevented more rapid expansion and it may be said that public opinion is now acutely alive to the importance of maternity and child welfare work. The chief and

perhaps, at the moment, the most important duty of the Health Visitor in rural areas is the training of indigenous dais and in some districts as many as 40 dais living in ten or more villages were trained and, in part, kept under supervision during the year. Forty dais trained by Health Visitors passed the Punjab Central Midwives Board Examination during the year and some 456 indigenous dais received training at the hands of Health Visitors during the year.

Satisfactory progress was, therefore, made during the year and it may be hoped that the steady decline in infantile mortality during recent years is, in part at least, attributable to the policy pursued by the Lady Chelmsford League and the energy and ability displayed by Miss Simon during the past few years.

44. **Conclusion**.—The duties of the Director of Public Health, as a member of the Legislative Council, Secretary of the Urban Sanitary Board, and a member of many other Boards and Committees, limited the time at his disposal for carrying out routine sanitary inspections. The Director was deputed to attend the Congress of the Far Eastern Association of Tropical Medicine in Calcutta in December 1927 and shortly after its conclusion many of the foreign delegates paid a visit to Lahore. These distractions, coupled with the increase in the number and complexities of the public health problems, served to emphasise the need for an adequate staff to cope with the constant emergencies arising out of the frequency with which great epidemics occur in this province. It is in fact becoming increasingly obvious that *ad hoc* measures to combat epidemics, *after they have broken out*, by an emergency staff, are costly both in time and money and are not particularly efficacious. During the year under review only one emergency occurred and consequently more time than usual was available for attending to the many pressing problems demanding attention. Amongst the questions dealt with during the year were the organisation of sanitary arrangements in connection with the Mandi Hydro-Electric scheme and the Kangra Valley Railway, the Medical Inspection of school children, the leprosy problem, the tuberculosis problem, the water-supply of fairs, the adulteration of food-stuffs, the health conditions prevailing in Criminal Tribes Settlements, Maternity and Child-welfare, the notification of infectious diseases, and other administrative measures, to some of which reference has been made in preceding paragraphs.

Hygiene has been defined as the science which renders growth more perfect, decay less rapid, life more vigorous and death more remote, and this review of the public health of the Punjab during the year 1927 will not have fully achieved its purpose, if it fails to convey the impression that slow but steadily progress is being made, but it will take many years of sustained effort, much good-will and constant devotion to the goddess of "efficiency", before any remarkable results will become apparent. All that can be expected in any one year is that something shall have been done to ensure that the foundations of future progress have been well and truly laid.

In concluding this report it is proper to refer to meritorious services rendered during the year. Except for the outbreak of cholera, the year was one of unusual tranquillity—so far as epidemics are concerned and, in consequence, no striking services call for special mention. The expanding activities of the Department continued to make a steadily increasing demand upon the time and energy, as well as upon scientific knowledge and administrative capacity, of all ranks of the department. These demands were, on the whole, satisfactorily met, and it is not therefore, proposed to refer by name to all whose work is worthy of acknowledgment. Mention must, however, be made of Dr. Harnath Singh, who as District Medical Officer of Health, Karnal, and later as Officer in charge of the Public Health exhibit in the Demonstration train, brought to bear upon his work ability and enthusiasm aided by a natural gift for propaganda; of Dr. G. C. Sahgal, who merits special mention for the able manner in which he discharged

the onerous duties—without remuneration—of Superintendent of the Public Health Equipment Depôt ; of Dr. Mohammed Yacob, who held charge of the Epidemiological Bureau ; and of Dr. Narinjan Singh Sethi, District Medical Officer of Health, Jhelum. Amongst the recruits, the work of Dr. Amrit Singh, as Medical Officer of Health, Mandi Hydro-Electric Project ; Dr. Q. Mohammad Said, as Medical Officer of Health, Kasur, during the cholera epidemic ; and of Dr. Balmokand, as Medical Officer of Health, Kangra Valley Railway, showed great promise.

Amongst Municipal Medical Officers of Health, the zeal and energy displayed by Major J. R. D. Webb, O.B.E., I.M S, as Medical Officer of Health, Simla (whose services have unfortunately been lost to the Province) and of Dr. Tiwari, the Municipal Medical Officer of Health of Jullundur, demand mention.

Miss M. Simon, as Principal of the Punjab Health School,and Miss M. Raynor, as Superintendent, continued their devoted labours in the cause of maternity and child-welfare, and to the tact, energy and ability displayed by Miss Simon is due to the steady progress made during the year in this important aspect of public health work.

SIMLA,
July 31st, 1928.

C. A. GILL, LT.-COL., I.M.S.,
Director of Public Health, Punjab.

APPENDICES.

A. Proceedings of the Urban Sanitary Board.

B. Annual Report of the Sanitary Engineer to Government, Punjab.

C. Statement showing the death-rates from Cholera, Smallpox, Fever and Dysentery and Diarrhoea for the five years preceding and for the period since the introduction of drainage or water supply or both in certain towns.

D. CHART I.—Birth-rate and Death-rate in the Punjab, 1867—1927.

CHART II.—The Infantile Mortality rate in the Punjab, 1880—1927.

CHART III.—Cholera Mortality, Punjab, 1867—1927.

CHART IV.—Death-rate from Small-pox in the Punjab, 1867—1927.

CHART V.—Death-rate from Plague in the Punjab, 1898—1927.

CHART VI.—Death-rate from "Fevers" in the Punjab, 1867—1927.

CHART VII.—Spleen-rate of the Punjab by Districts during the year 1927.

APPENDIX A.

PROCEEDINGS OF THE URBAN SANITARY BOARD, PUNJAB.

Five meetings of the Urban Sanitary Board were held during the year, two in Lahore and three in Simla.

The grants sanctioned at the meeting held in February 1927 out of the budget provision for 1926-27 were as follows :—

		Rs.	A.	P.
1.	Dera Ghazi Khan water supply extension scheme ...	10,135	0	0
2.	Rawalpindi drainage scheme	31,612	0	0
3.	Rewari water works	11,920	0	0
4.	Chuharkana drainage extension scheme	8,169	8	0
5.	Sialkot drainage scheme	58,000	0	0
6.	Sialkot drainage scheme	50,000	0	0
7.	Public Health Section of the Palwal Show ...	625	0	0
8.	Experimental water sterilizing outfit	11,315	0	0
9.	Dalhousie water works extension scheme ...	20,411	0	0
10.	Sinking well at village Tandwall	400	0	0
11.	Improving a Naun at Ladauri	109	0	0
12.	Dera Ghazi Khan water supply extension scheme ...	1,145	0	0
13.	Chak Jhumra drainage scheme	34,735	0	0
14.	Pathankot water supply scheme	22,250	0	0
15.	Jagadhri drainage scheme	17,483	0	0
16.	Trial boring in three wells in Jhajhar Tehsil ...	4,808	0	0
	Total ...	2,83,117	8	0

A fresh grant of Rs, 8,50,000 was placed at the disposal of the Urban Sanitary Board, Punjab, for allotment during the financial year 1927-28 and from this sum grants amounting to Rs. 4,54,116 were allotted up to 31st December 1927, to the projects detailed below, leaving a balance of Rs. 3,95,884 to be distributed during the last three months of the financial year :—

		Rs.	A.	P.
1.	Abohar water supply scheme	1,10,397	0	0
2.	Storm water channel, Amritsar	44,295	0	0
3.	Baoli at Anu, Hamirpur Tehsil, Kangra District ...	599	0	0
4.	Sargodha Flushing Channel	5,596	0	0
5.	Sinking a well at Gharot, Nuh Tehsil, Gurgaon District	400	0	0
6.	Ferozepore drainage extension scheme	15,097	0	0
7.	Choa and Katas fair area water supply scheme ...	14,258	0	0
8.	Water meter and water meter testing equipment ...	8,765	0	0
9.	Sargodha water supply extension scheme ...	10,740	0	0
10.	Special repairs of Una Bazar	1,874	0	0
11.	Re-construction of Bahrainka Naun near Tana Devi, Hamirpur Tehsil, Kangra District	554	0	0
12.	Guma Project, Simla water supply extension scheme ...	99,990	0	0
13.	Bhalwal water supply scheme	31,300	0	0
14.	Moga Drainage Scheme	71,000	0	0
15.	Construction of a Fly Larva Trap at Simla ...	332	0	0

		Rs.	A.	P.
16.	Jowalamukhi water supply scheme	28,013	0	0
17.	Sinking a well at Tika Gheaoli, Village Fatehpur, Tehsil Nurpur, District Kangra	742	0	0
18.	Rewari water works	9	0	0
19.	Water supply scheme for Choa and Katas fair area ...	517	0	0
20.	Dabwali Mandi water supply scheme	1,500	0	0
21.	Improving a Baoli at Jungle in Tehsil Hamirpur, Kangra District	272	0	0
22.	Improving a well at Naggal, Ambala District ...	569	0	0
23.	Constructing a well at Rurkee, Ambala District ...	500	0	0
24.	Drainage and paving streets in village Saukanwind, Pasrur Tehsil, District Sialkot	1,797	0	0
25.	Pitting of Manure in Gurgaon District	10,000	0	0
	Total ...	4,54,116	0	0

The composition of the Board at the end of the year and the number of attendances of each member is shown below :—

Name.	*Number of attendances.*
The Hon'ble Malik Firoz Khan Noon, Minister for Local Self-Government	5
1. J. G. Beazley, Esquire, I.C.S., Secretary to Government, Punjab, Transferred Departments	5
2. H. W. Emerson, Esquire, C.B.E., C.I.E., I.C.S., Secretary to Government, Punjab, Finance Department ...	4
3. A. R. Astbury, Esquire, M. Inst. C. E., Chief Engineer to Government, Punjab, Public Works Department, Buildings and Roads Branch	2
4. W. S. Dorman, Esquire, M. Inst. C.E., Chief Engineer to Government, Punjab, Public Works Department, Buildings and Roads Branch	2
5. A. Langley, Esquire, C.I.E., I.C.S., Commissioner, Lahore Division	Nil.
6. Colonel C. R. Bakhle, I.M.S., Inspector-General of Civil Hospitals, Punjab	3
7. Rai Bahadur Lala Amar Nath Nanda, M.I.C.E., Sanitary Engineer to Government, Punjab	5
8. Rai Sahib Chaudhri Chhotu Ram, B.A., LL.B., M.L.C., Rohtak	4
9. Rana Feroze-ud-Din Khan, B.A., LL.B., M.L.C., Pleader, Lyallpur	5
10. Sardar Ujjal Singh, M.L.C., Mian Channu, District Multan	3
11. Mr. Din Muhammad, M.A., LL.B., M.L.C., Advocate, Gujranwala	2
12. Lala Mohan Lal, B.A., LL.B., M.L.C., Advocate, "Firgrove," Simla	3
13. Mir Ahmed Yar Khan Daultana, of Luddan, District Multan	1
14. Rai Bahadur Pandit Daulat Ram Kalia, M.B.E., M.L.C., Bar-at-Law, Ferozepore City	3
15. Lieutenant-Colonel W. H. C. Forster, D.P.H., I.M.S., Secretary, Urban Sanitary Board, and Director of Public Health, Punjab	5

The Auditor attached to the Board continued his useful work of checking the accounts in connection with these schemes with a view to the detection of irregularities, to the discovery and recovery of unspent balances and generally to ensure that the grants made by the Board were expended upon the projects for which they were allotted.

The post of Secretary to the Urban Sanitary Board was held by Colonel W. H. C. Forster, I.M.S., D.P.H., up to the 10th November 1926, on which date he was relieved by Lieutenant-Colonel C. A. Gill, I.M.S., D.P.H., who succeeded him as Director of Public Health, Punjab.

APPENDIX B.

ANNUAL REPORT OF THE SANITARY ENGINEER TO GOVERNMENT, PUNJAB, FOR THE YEAR 1927.

I Administration.

The post of Sanitary Engineer to Government, Punjab, was held throughout the year by Rai Bahadur Amar Nath Nanda, B. A., M. I. E., (Ind).

The number of Divisions comprised in this Circle remained the same throughout the year namely, three Divisions :—

(*i*) No. I Sanitary Provincial Division:—Executive Engineer in charge Mr. J. A. R. Bromage.

(*ii*) No. II Sanitary Provincial Division:—Executive Engineer in charge Mr. D. A. Howell.

(*iii*) Multan Sanitary Provincial Division:—Executive Engineer in charge Mr. G. T. Pound.

Mr. T. B. Madnani, Temporary Engineer was attached to the II Sanitary Provincial Division, on the 3rd January 1927, and was placed in charge of the preparation of the detailed projects for the Lahore Water Supply Re-organization and Sewerage Schemes. This charge was made into a Sub-division called the 2-C Sub-division, from the 1st July 1927.

L. Guranditta Mal, Assistant Engineer, and S. D. O. No. I-A Sanitaay Sub-division Sialkot, was transferred to the charge of No. 2-A Sanitary Sub-division, Lahore on 7th May 1927. He was relieved in Sialkot by Mr. D. N. Gautam, Temporary Engineer transferred from No. 2-B, Sanitary Sub-division, Ferozepore. L. Nand Lal Sub-Engineer was transferred to Ferozepore Sanitary Sub-division from June 1927.

Mr. J. E. Robinson was in charge of Multan Sanitary Sub-Division upto 1st November 1927, after which he went on leave and was relieved by L. Devi Chand Senior Sanitary Overseer.

Mr. Devi Chandra Khanna, Apprentice Engineer from Roorkee, joined the Sanitary Circle and was attached to II Sanitary Provincial Division for training from 21st November 1927.

Miscellaneous Work—125 visits to Municipal Towns, Notified Areas and Small Towns were paid by the Sanitary Engineer and his staff in connection with Sanitary Schemes during the year.

Boring Works.—11 borings were done during the year for Water Supply Schemes, most of these having been undertaken with Government boring plant. Work in each case was carried out expeditiously and at economic rates.

During 1927, the average number of Sanitary Works under execution from month to month was 17.

21 new schemes were commenced at different times during the year and 20 were completed.

II Sanitary Works under construction.

Government works are dealt with first :—

(*i*) *Government House, Lahore.*—The Municipal storm Channel from the Davis Road area through Government House ground, was completed by the Lahore Municipal Committee, and the subsidiary storm water channel draining the Government House ground on the side contiguous to the Mall was constructed and came into operation in the monsoon.

2. *Lahore Fort main Drainage. (Rs. 32,318).*—The sewerage system completed last year and handed over to the committee for maintenance, has worked satisfactorily. The surface drainage work in connection with conveyance of sullage to the sewer from the houses are being proceeded with as building development takes place.

3. *Additions and alterations to water supply at King Edward Medical College, and Mayo Hospital Lahore. (Rs. 71,328).*—This scheme has been completed and is working satisfactorily. It is probable that a second tube well to act as a stand by to the existing tube well installed in connection with this scheme, will be required in the near future in order that it may be available in case of a breakdown to the original tube well.

4. *Drainage for new Medical School Hostel, Amritsar. (Rs. 40,234).*—This scheme has been completed and the outfall work and the duplicate oil driven pumping plant is working satisfactorily. The Medical Department, however, has not made satisfactory arrangements for the operation and cultivation of the sewage farm on which the effluent from the drainage works requires to be treated.

5. *Water Supply, New Medical School, Amritsar. (Rs. 38,017).*—This work which consists of a tube-well equipped with a duplicate set of oil driven centrifugal pumps,

overhead tanks on the roof of the Hostel and distribution system at the Hostel, has been completed and is working satisfactorily. The rate of water consumption by the inhabitants of the Hostel has risen very high owing to great wastage of water due to neglect to close taps by students. The attention of the Principal has been drawn to this matter.

6 *Sewerage scheme, Punjab Mental Hospital, Lahore.* (*Rs. 42,271*).—This scheme which was commenced in the previous year is now completed except for the electrical connections to the pumps which is in the hands of the Electrical Engineer to Government, Punjab.

The Scheme consists of the provision of a water borne system of sewerage for the female Mental Hospital, water flushed sanitary fittings in the new block, an electrically driven pumping station equipped with a pair of vertical spindle "Wallwin" pump and pump well for pumping the sewage to the sewage farm south of Mianmeer Escape Channel, a 4" rising main, the effluent being finally disposed of by land irrigation in the Mental Hospital Gardens.

7. *Water Supply Female Mental Hospital Lahore* (*Rs. 17,918.*)—This scheme consists of a new tube well equipped with a duplicate set of electrically driven centrifugal pumps, a 4" rising main to overhead storage tanks on the roof of the New Female Mental Hospital Block ; and connections to the existing distribution system and has been provided in order to serve the Female Mental Hospital, the existing water supply arrangements being deficient.

The boring work has been completed and a 5" Taj Strainer fitted. The connection of overhead tanks and rising main has been completed and the tube-well chamber is in course of construction.

8. *Constructing storm Water Channel along G. T. Road between Chota Ravi and Goushala Road, Lahore.* (*Rs. 19,878*).—The bulk of this work, consisting of the provision of brick in cement shallow storm water channel on each side Grand Trunk Road between the Chota Ravi and Gaushala Road was finished in 1926, and during the monsoon of 1927, the work was tested and found to have an exceedingly beneficial effect in preventing the collection of pools of stagnant water. Forming breeding places for mosquitos. The remainder of the work is in course of construction.

9. *Installation of a tube well in the Punjab Veterinary College, Lahore.* (*Rs. 29,466*).—This scheme consisting of the construction of a tube well near the Veterinary College Hostel, equipped with a duplicate set of electrically driven pumps, cast iron main to existing overhead reservoir and irrigation water supply service has been completed and is working satisfactorily and will ensure a full and adequate water supply for this institution.

10. *Sanitary Installation in Punjab Veterinary College Hostel, Lahore.* (*Rs. 19,500*).—This is an installation of water supply and drainage on the water carriage system and sanitation for the New Punjab Veterinary College Hostel. The water carriage sewerage system discharging in to the Shishmahal sewerage system of the Lahore Municipal Committee is completed and is working satisfactorily. The water supply is derived from the new tube-well at the Veterinary College and the pipelines, storage tanks and fittings are completed and the installation of sanitary fittings is in hand.

11. *Independent water supply at G. O. R. Estate, Lahore.* (*Rs. 30,793*).—This work consists of a new tube well as source of water supply with duplicate pumping plant, electrically driven, discharging into a reinforced concrete overhead reservoir, close by, from which cast iron distribution main will be laid along the road of the G. O. R. Estate to supply the various bungalows through metered private connections.

The pipe laying work has been completed and the construction of the overhead reservoir is in hand. The boring work in connection with the tube well is well advanced and the pumping plant placed on order.

12. *Constructing certain petty works for the accommodation of troops called in to suppress riots at Lahore.* (*Rs. 9802*).—The scheme comprised the construction of latrines, bath-rooms and other works near the Delhi Gate, Lahore in connection with accommodation of troops called in to suppress the riots at Lahore in 1927. The works were completed in less than 14 days notice in ample time.

13. *Water Supply to fountains and grass plots in Old Fort, Lahore.* (*Rs. 11,678*)—These works consisting of distribution pipes of cast iron and G. I. pipes with connections to new fountains at Jahangirs Tomb Quadrangle were commenced towards the end of 1927 and are well advanced, practically all pipe lines having been laid.

14. *Lahore Fort, land intramural Drainage.* (*Rs. 22,862*).—This consists of the provision of a kerb and channel and type I, standard drains of cement concrete in the old Fort area and is being proceeded with as developments in the building construction require. The work carried out up to date is as advanced as buildings developments permit.

15. *Water Supply, Old Fort, Lahore.* (*Rs. 17,755*).—These works including tube well and duplicate electrically driven pumping plant, have been completed and are running satisfactorily.

16. *Overhead Service Reservoir O Fort, Lahore.* (*Rs. 18,535*).—This scheme consists of a reinforced brick work overhead service reservoir at the Old Fort carried on a high brick work pedestal on a special reinforced concrete raft foundation, together with a cast iron rising main from the recently completed tube well at the Old Fort. The works have been completed and are in operation.

17. *Combined water supply at Dyeing, School and Tannery Buildings, Shahdara.* (*Rs. 45,745*).—This scheme was under construction since the previous year and consists of a tube well equipped with electrically driven pumping plant, in duplicate, overhead reservoir, distribution system and fittings. The job has been completed and is operating satisfactorily.

18. *Water Supply Punjab Maternity Hospital, Lahore.* (*Rs. 27,091*).—These works were under construction since the previous year and consist of a complete pressure-water supply scheme including tube well, overhead steel storage tanks and distribution pipe lines throughout the Hospital. The tube well is complete and the pumping plant consisting of electrically driven centrifugal pumps, in duplicate, installed and the main distribution system to the block already built, *viz.* Administration Block A, and Main Hospital Block B, practically finished.

19. *Providing a Sewerage Scheme together with provisions of Sanitary fittings in New Maternity Hospital, Lahore.* (*Rs. 68,527*).—This comprises complete water carriage system and sanitary fittings for the Hospital. The job was commenced only towards the end of 1927, since when good progress has been maintained. The external drainage is well in hand, the septic tank and pumping chamber is under construction as well as rising main and gravity deliver sewer. The contract for Sanitary fittings is about to be given and tenders have been invited for pumping plant.

20. *Central Heating Main Hospital Block Materinity Hospital, Lahore.* (*Rs. 23,602*).—This work was only sanctioned towards the end of 1927, and the tenders for the plant were called for.

21. *Providing fire fighting installations at Lawrence School, Ghora Gali.* (*Rs. 25,352*).—This work has been completed and the maintenance of the whole water supply of this installation has been taken over by this department.

22. *Montjomery Jail Water Works.* (*Rs. 45,151*).—These works have been completed and are being operated. They are of interest as being the first air-lift works installed by this Department.

23. *Central, Jail, Lahore, additions and alterations to water supply involved by reason of substitution of mechanical contrivances for manual labour for lifting water—estimated cost* (*Rs. 12,514*).

24. *Borstal Jail, Lahore.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 6,784.

25. *District Jail, Jullundur.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 6,832.

26. *District Jail, Hissar.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 6,299.

27. *District Jail, Ludhiana.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 8,090.

28. *District Jail Mianwali.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 4,120.

29. *District Jail, Campbellpur.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 3,906.

30. *District Jail, Jhelum.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 11,618.

31. *District Jail, Sialkot.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 11,659.

32. *Tubercular Jail, Shahpur.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 11,010.

33. *Central Jail, Multan.*—Providing mechanical contrivances for lifting water from wells—estimated cost Rs. 4,939, and Rs. 6,256.

34. *District Jail, Multan.*—Providing mechanical contrivaaces for lifting water from wells—estimated cost Rs. 4,939.

Explanation.—As a result of the recommendation of the Punjab Jail Committee, a decision to abandon all manual labour in Punjab Jails was made in 1926, and in consequence, mechanical appliances for pumping water had been installed. In the case of Ludhiana, Rohtak, Hissar, Mianwali, Campbellpar, Jhelum, Sialkot and Shahpur, these consist of oil engines driven Boulton Elevators, while at the Jullundur Jail, a capstan lead pump worked by manual labour has been replaced by two electric pumping sets and in addition, on the factory

well an electrically driven Boulton Elevator has been installed. In Lahore Central Jail, a new tube well has been installed and equipped with a duplicate set of electrically driven pumps. In the Borstal Institution, Lahore, a duplicate set of electrically driven pump has been installed to replace a capstan head pump operated by manual labour. In the Multan Central Jail an oil engine has been installed to work the pump for drinking water which was previously operated by a hand capstan. In the same Jail an oil engine driven pump has been installed in the garden for pumping irrigation water.

In the Multan District Jail electrical driven centrifugal pumps have been installed to take the place of hand worked capstan pump.

(b) WORKS IN CONNECTION WITH LOCAL BODIES ARE DESCRIBED BELOW :—

1. *Rawalpindi Water Works.* (*Rs. 6,43,123*).—The final completion of the 2nd well has enabled the water works to give a continuous supply and as from March 1927, the supply has not stopped for a moment. Consumption ranges from Rs. 12,00,000 to Rs. 1,750,000 gallons daily, net running costs are being maintained at less than half an anna per thousand gallons delivered.

2. *Nurpur Fair Area Water Supply.* (*Rs. 44,620*).—A complete protected pipe water for the fair area was started and completed during the year under review.

3. *Thal Ilaqa Water Supply.* (*Rs. 1,48,043*).—A start has been made on the water supply project for this illaqa during this year and the scheme is in progress and will be completed shortly.

4. *Choa and Katas Water Supply.* (*Rs. 83,288*).—A start has been made on the water supply scheme for these fair areas. The work is progressing at a fairly good speed and it is hoped that the scheme will be ready for operation during the next fairs.

5. *Maghiana Drainage Scheme.* (*Rs. 2,97,065*) —The work of outfall and disposal works which was held up owing to non-receipt of balance of contribution money from the Municipal Committee, was on receipt of this amount, taken in hand and completed during the year.

6. *Saraodha Drainage Scheme.* (*Rs. 68 179*).—Work on the extension of drains and pavements in Block No. 17 and so, was commenced and completed during the year.

7. *Sialkot Drainage Scheme.* (*Rs 3,16,144.*)—Work on this scheme was commenced in 1927 and good progress has been made on this project. Drains of large sections of cement concrete are being laid.

8. *Sialkot Water Supply Improvements.* (*Rs 1,50,000*).—The completion of this work of extension has been unfortunately held up owing to serious delays on the parts of Messrs Worthington Simpson.

9. *Chak Jhumra Drainage Scheme.* (*Rs. 1,04,755*) —Work was started during the year and good progress has been made. The work will be completed shortly.

10. *Jullundur City Drainage Scheme.* (*Rs. 7,57,973*).—The whole of the scheme including the Kot Kishen Chand pumping station which was in hand since the previous year has been completed satisfactorily and handed over to the Municipal Committee for operation. The scheme has proved successful except the main outfall pumping plant where the Robey Vertical Engines have given trouble due to defective cylinder heads and the firm who supplied the plant have now agreed to replace these on reasonable terms.

11. *Abohar Drainage Scheme.* (*Rs. 2,45,209*),—This scheme comprises a complete surface drainage, outfall, sewage collection tanks, oil engine driven pumping plant, which is in course of installation. Funds for metalling the mandi and the roads have not been provided and the full benefit from drainage will not be manifested until all roads are metalled.

12. *Abohar Water Supply.* (*Rs. 3 25 357*).—This scheme has been designed for a supply of 1,50,000 gallons *per diem* for the town of Abohar, based on the Sirhind Canal. The works comprise canal supply channel, storage and sedimentation tanks high level tanks, clear water reservoirs, slow sand filter beds, overhead, distribution reservoir and distribution system of cast iron mains in principal streets of the town, with public standpost. The whole of the distribution system has been laid, the engine-house, staff quarters high level tank and clear water reservoir are practically completed, filter beds and storage tanks are well in hand, pumping plant has been ordered and good progress has been maintained generally with this work.

13. *Moga Drainage Scheme.* (*Rs. 1,41,624*).—This scheme comprises a complete surface drainage with outfull works and pumping station for the Mandi and Abadi Area.

The intramural drainage works for blocks 1, and 2 have nearly been finished and the other blocks have been given out on contract. Some delay has occured due to the desire of the Municipal Committee to change the site of the outfall works and the alignment of the main outfall which question has not yet been finally settled by Local Body.

14. *Ferozepore City Drainage Extension.* (*Rs. 82,944*).—This work consists of storm water drainage discharging into the river Sutlej together with surface drainage scheme in connection with the five Bastis outside the city proper. Owing to the

changed regime of the River, due to the new Ferozepore Weir Head Works, it is not possible to carry out the storm drainage arrangements as originally anticipated but the intramural drainage of the five *Bosties* has been vigorously pushed forward and about half the work has been completed.

15. *Jagadhri Drainage Scheme.* (*Rs. 1,34,966*).—This comprises the installation of a complete surface drainage in the town together with repairs, renewals, etc. to pavements.

Block No. 1 and 2 have nearly been completed, while block No. 3 and 4 have been let on contract. Boring work in connection with the flushing installation has been completed and the tube well strainer lowered.

16. *Surface drainage for a portion of New town of Sheikhupura.* (*Rs. 46,654*).—The works have been in progress since the previous year and comprise the provision of surface drains and pavements and metalling in the new Abadi area as well as the Bazar Area south of the Mandi, together with outfall drain and outfall works and have been satisfactorily completed and handed over to the Municipal Committee for maintenance.

17. *Gurgaon District Rural Water Supply.* (*Rs. 55,622*).—All works, except a flood water storage tank at Bokharaka, were reported to have been completed and handed over to the District Board, last year. The Bokharaka tank has since been completed and handed over to the District Board for maintenance.

18. *Rewari Water Works Extension.* (*Rs. 38,955*).—The work comprising an additional percolation well, suction tunnel and suction connections have been completed and handed over to the Municipal Committee. Certain minor jobs including a new floor to the pumping station are under construction out of savings.

19. *Sohna Sulphur Springs.* (*Rs. 14,702*).—The scheme consisted of the remodelling of the hot sulphur springs and baths at Sohna, providing separate inlets and wastes to each with and free drainage therefrom. The spring was cleaned out by pumping out all sludge with the result that the yield has improved considerably and all works completed and handed over to the Sohna Notified Area Committee.

20. *Dalhousie Water Supply Extension.* (*Rs. 44,902*).—This comprises the provision of new 4″ I/D and 3″ I/D. Armco Iron Pipe Line from the Head Works to the main distribution reservoir, together with minor repairs and alteration to the Head Works. The whole of the pipes, valves and special castings have been delivered at Pathankot North Western Railway ready for proceeding with the work in the spring of 1928.

21. *Pathankot Water Supply.* (*Rs. 1,71,145*).—The scheme includes well, headworks, oil engine driven pumping plant, engine house, staff quarters, 6″ caste iron rising main to distribution reservoir and a complete distribution system of caste iron pipes and public stand posts. The distribution system has been practically completed. The other works are in hand and tenders for pumping plant have been called for.

22. *Chuharkana Drainage.* (*Rs. 16,341*).—These works comprising the provision of a complete system of surface drains for Chuharkana, was only commenced near the end of 1927. Contract for the whole job has been let and work on collection of materials and earth work has started.

23. *Drainage of grain market at Sheikhupura.* (*Rs. 73,084*).—This scheme which covers the provision of surface drainage, kerb and channelling the brickpitched pavements in the Mandi area was only commenced towards the end of 1927, contracts for the work have been let and the collection of material has begun.

24. *Multan Water Works.* (*Rs. 12,57,637*).—But for the failure of the service reservoir on the Fort mound, this scheme would have been completed during the year 1926. With the construction of a new steel service tank at the Head Works, this scheme will be finally completed in the beginning of 1928.

25. *Dajal Trial Boring.* (*Rs. 1,284*).—A trial boring was sunk at Dajal to a depth of 300 feet; but the water met with was brackish. It is now proposed to carry out a survey in the neighbourhood of the town to see if potable water can be obtained within a few miles of it.

26. *Dera Ghazi Khan Water Works.* (*Rs. 24,650*).—Tube wells are being sunk to take place of those which have become useless, and a new pumping station is being built with percolation wells as the source of supply. The maintenance of these works has been taken over by the Sanitary Engineering Department.

27. *Montgomery Market Drainage.* (*Rs. 73,160*).—A surface drainage scheme has been constructed for the grain Mandi area at Montgomery. Means of flushing the drains and lifting the sullage at the Disposal Works will be provided to make the scheme successful.

Names of Sanitary Projects prepared during the year under report by the Executive Sanitary Engineers are given below :—

Names of Projects.	*Amount of Project.*
PRELIMINARY PROJECT.	
(*a*) *Major Works*—(*Provincial*)—	
	Rs.
1. Maclagan Engineering College Water carriage Sewerage ...	69,523
2. Independent Water Supply, G.O.R. Estate	34,529
3. Water Supply, drainage, and Storm Water Drainage for Clerks Quarters, Lahore	3,90,000
4. Sanitary Installation of Punjab State Agency, Jullundur ...	97,243
5. Sanitary arrangements proposed Lady Aitchison Hospital, and Medical College, Lahore	3,34,013
(*b*) *Minor Works*	...
Total ...	9,25,288
(*a*) *Major Works.* (*Contribution*)—	
	Rs.
1. North Western Railway Sewerage Scheme	8,49,002
2. Tola Tek Singh Water Supply	1,88,000
3. Pinddadan Khan Water Supply	3,53,300
4. Sharakpur Drainage Scheme	73,849
5. Providing complete Sanitary Installation on the Water Carriage System for the proposed new Gujaranwala Hospital ...	73, 00
(*b*) *Minor Works.*	11,856
Total ...	15,49,507
GRAND TOTAL ...	24,74,795
DETAILED PROJECTS.	
(*a*) *Major Works*—(*Provincial*)—	
	Rs.
1. Drainage and Water Supply for proposed Clerks Quarters at Sargodha	12,598
2. Providing mechanical contrivances to wells at Gujrat Jail ...	13,126
3. Mechanical contrivances for pumping water, Central Jail, Lahore	15,020
4. Tube Well for Hydraulic Research Laboratory, Public Works Department, Secretariat, Lahore	13,305
5. Water supply, Central Jail, Lahore	12,514
6. Water supply and drainage scheme, Borstal Institution, Lahore	27,000
7. Providing water supply and drainage to warders quarters, Central Jail	13,665
8. Maternity Hospital, Lahore, drainage and sanitary fittings ...	66,727
9. Maternity Hospital, main Block Central Heating ...	23,602
10. Water supply and drainage proposed Police Hospital, Police Lines, Qila Gujar Singh, Lahore	28,334
11. Providing drainage and water supply arrangements for terraces along the south wall of Old Fort, Lahore	19,608
12. Drainage at King Edward Medical College Hostel, Lahore ...	13,722

		Rs.
13.	Water supply to fountains for grass plots Old Fort, Lahore	11,678
14.	Drainage at King Edward Medical College Hostel, Lahore ...	11,004
15.	Water supply, drainage and other sanitary fittings for main Block Anatomical Block Medical School, Amritsar ...	35,476
16.	Dental Hospital and School, Laboratory equipment ...	10,588
17.	Dental Hospital and School, Sanitary equipment	12,670
18.	Independent water supply G. O. R., Part I	30,793
19.	Providing water supply for drinking and irrigation purposes to Post and Telegraphic Offices, Lahore	12,696
20.	Pumping plant, valves, pipes, tanks, etc. in the Hydraulic Research Laboratory, Lahore	36,603
21.	Indian clerks quarters water supply	1,10,343
(*b*)	*Minor Works*	2,85,516
	Total ...	8,16,593

CONTRIBUTION WORKS.

		Rs.
(*a*)	*Major Works*—	
1.	Thal Ilaqa water supply	1,43,141
2.	Isa Khel water supply	1,36,844
3.	Choa and Katas water supply	83,258
4.	Protection from flooding Police Lines at Sialkot	31,253
5.	Lyallpur village water supply scheme No. 3	1,01,856
6.	Sargodha drainage block No. 18 and 19, sub-work No. I ..	16,076
7.	Sargodha drainage block No. 18 and 19, sub-work No. II ...	58,173
8.	Phullerwan protection bund	25,936
9.	Consolidation of roads, Abohar drainage scheme	21,446
10.	Proposal to augment the present water supply of Lahore ...	59,488
11.	Sheikhupura grain market drainage scheme	73,084
12.	Extension to Dalhousie water supply...	44,902
13.	Rewari drainage scheme	79,868
14.	Sheikhupura drainage, supplementary estimate for connecting drainage for clerks quarters, with main outfall, etc. ...	13,888
15.	Lahore sewerage scheme (Gawal Mandi, Bazar Sewer) ...	29,382
16.	Lahore, water works re-organisation scheme	34,97,066
(*b*)	*Minor Works*	32,701
	Total ...	44,48,412
	GRAND TOTAL ...	52,65,005

Names of projects prepared in the Circle Office under the supervision of the Sanitary Engineer to Government, Punjab are given below :—

CONTRIBUTION.

	Name of projects.	*Amounts.*
		Rs.
1.	Drainage extension Pasrur (Preliminary) ...	1,07,071
2.	Drainage scheme of Shahzada Nungal (Preliminary) ...	63,961
3.	Palampur water supply (Preliminary)	27,605
4.	Protecting Sialkot and its suburbs from the effect of Aik Nallah floods. (Preliminary)	23,264
5.	Water supply scheme for Pattoki Mandi. (Preliminary) ...	1,76,332
6.	Extension of drainage system at Khanga Dogran. (Detailed)	11,655
7.	Proposed drainage scheme for Burewala Mandi. (Preliminary)	1,93,172
8.	Proposed drainage scheme for Arafwala Mandi. (Preliminary)	1,93,232
9.	Gujrat drainage extension. (Preliminary)	2,05,002
10.	Hazro drainage scheme. (Preliminary)	16,579
11.	Gojra drainage extension. (Preliminary)	2,36,666
12.	Jagraon Mandi (Anderson Gunj) drainage scheme. (Preliminary)	52,762
13.	Wazirabad drainage scheme. (Detailed)	31,497
	Total ...	13,40,798

AMARNATH NANDA,

Sanitary Engineer to Government, Punjab.

No.	Name of Municipality.	Population at the Census of 1921.	Average daily quantity of water pumped during the year ending 31st March 1927.	Average daily supply per head of population.	Receipts.					Expenditure.									Balance.		Remarks.
					Water-rate.	Sale of water.	Rent of meters.	Other receipts.	Total receipts.	Establishment.	Pumping.	Intake.	Settling tank and filter.	Distribution.	Repairs.	Water analysis.	Miscellaneous.	Total expenditure.	Credit balance.	Debit balance.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
					Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.	
1	Ambala (Handersa)	28,581	11,22,227	39·26	...	24,814	...	...	24,814	9,928	7,633	260	...	3,997	2,148	..	11,717	35,682	..	10,867	
2	Amritsar ...	157,031	11,08,000	7·05	...	98,997	1,587	1,578	1,02,159	26,235	39,776	...	...	8,458	5,029	...	...	79,498	22,660	...	
3	Dalhousie ...	1,457	20,000	13·7	4,051	...	...	...	4,051	468	...	..	...	132	116	...	...	716	3,335	...	
4	Dharmsala Municipal water supply.	5,000	68,000	13·6	3,811	...	...	...	3,811	332	...	...	..	3,061	611	...	...	4,004	...	192	
	Cantonment water-supply.	4,000	36,000	9·0	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	
5	Gojra ...	7,622	80,000	12·0	...	1,100	...	...	1,100	1,823	4,553	3,750	...	1,294	155	...	..	11,575	...	10,475	
6	Lahore ...	2,57,295	...	...	...	2,84,574	...	...	2,84,574	40,070	1,12,836	210	...	5,762	15,180	6,531	...	1,80,629	1,03,945	...	
7	Ludhiana ...	51,880	748,240	10·6	..	25,643	...	...	25,643	38,522	14,562	...	...	...	.	...	...	23,085	2,558	...	
8	Lyallpur ...	28,136	475,831	16·91	...	28,203	..	...	28,203	8,211	5,302	6,105	3,221	8,955	1,071	370	258	33,493	...	5,290	
9	Pind Dadan Khan ..	9,919	24,960	2·5	...	11	...	...	11	1,040	3,064	...	...	185	266	...	...	4,554	...	4,898	
10	Rawalpindi ...	55,251	9,86,309	17·85	...	13,201	1,518	...	14,719	17,444	23,976	...	.	...	...	...	...	41,420	...	26,702	
11	Rewari ...	23,129	1,00,683	4·35	..	...	...	11,920	11,920	5,899	4,661	...	43	130	3,336	...	11,920	25,984	...	14,064	
12	Simla ...	26 149	3,38,019	12·92	1,68,185	54,022	7,973	887	2,31,067	91,486	51,713	...	1,956	10,287	5,669	...	...	1,51,111	69,956	...	
13	Sialkot ...	56,018	...	...	28,393	...	...	555	26,948	11,628	11,515	...	...	695	1,107	...	...	30,445	...	3,498	
14	Toba Tek Singh ...	5,041	33,500	6·64	1,777	597	...	...	2,374	1,127	9,402	...	694	...	815	...	...	12,038	...	9,664	
15	Khushab ...	10,009	31,43,0·41	3·14	635	...	...	...	635	1,503	1,369	70	...	132	118	...	...	3,198		2,563	
16	Dera Ghazi Khan ...	20,731	49,214	2·4	...	1,000	...	...	1,000	3,882	5,432	100	642	709	1,920	...	1,727	14,829	...	13,829	
17	Jaranwala ...	4,000	7,399	18·49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
18	Murree ...	2,397	161,000	67·16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
19	Sargodha ...	20,000	228,940·54	11·44	6,924	8,393	...	1,622	16,939	8,962	4,283	815	452	2,051	1,087	...	3,812	21,463	...	4,524	

D. A. HOWELL,
Offg. *Superintending Engineer, Public Health Circle, Punjab.*

APPENDIX C.

Statement showing the death-rates from cholera, small-pox, fever and dysentery and diarrhœa f the five years preceding and for the period since the introduction of drainage or water-supply or both in t undermentioned towns :—

Towns.	Date of completion of works of		Average annual death-rate since the introduction of drainage or water-supply or both.				Average annual death-rate for the five years' period preceding the introduction of drainage or water-supply or both.				Remarks.
	Drainage.	Water-supply.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhœa.	Cholera.	Small-pox.	Fever.	Dysentery and diarrhœa.	
1	2	3	4	5	6	7	8	9	10	11	12
Rohtak	1923	...	0·2	0·1	13·8	1·1	0 5	0·3	27·7	1·2	
Rewari	...	1920	0·5	0 3	5 6	1·5	0·4	0·4	8·5	3·2	
Ambala	..	1895	0·4	0·4	12·7	3·0	0 5	0·4	19·3	6·4	
Simla	1893	1893	0·2	0·3	12·8	1·0	...	1·1	17·1	1·4	
Dharmsala	...	1908	0·6	0·6	9·4	2 0	0·3	...	6·1	1 6	
Hoshiarpur	1925	...	1·1	0·6	11·3	0·1	0·2	0·7	9·5	0·1	
Ludhiana	1895	1909	0·3	0·7	16·4	2·2	0·4	2·7	20·8	1·6	
Jagraon	1907	...	0 5	1·0	12·8	1·6	0·6	1·5	9·3	2·0	
Ferozepore	1916	..	0·5	0·6	12·5	1·3	0·2	0·7	9·8	1·1	
Zira	1913	...	0·9	1·3	17·8	0·7	0·3	4·0	16·6	0·9	
Fazilka	1913	...	0·9	1·1	21·9	1·7	2·2	2·6	21·4	1·7	
Muktsar	...	1925	0·2	4·3	10·2	0·8	0·04	0·04	11·3	1·1	
Lahore	1921	1881	0·3	0·9	13·5	1·9	0·2	0·6	20·0	1·3	
Kasur	1922	...	2·7	0·4	14·4	1·2	1·6	1·0	21·8	1·0	
Amritsar	1885	1904	0·5	1·1	21·9	1·6	0·4	0·7	31·3	1·8	
Jandiala	1924	...	0·6	0·2	17·5	1·2	0·03	1·0	17·1	0·7	
Gurdaspur	1918	..	0·2	0·4	16·3	2·7	0·6	0·3	14·2	3·1	
Dalhousie	...	1894	...	0·6	11·0	1·7	...	...	9·6	2·4	
Pathankot	1915	...	1·4	0·4	18·3	3·0	0·8	0·7	12·4	2·8	
Sialkot	...	1915	0·5	0·4	13·6	2·2	3 0	1·2	9·6	2·3	
Gujranwala ...	1892	...	0·6	1·0	18·2	1·2	0·5	0·6	19·7	1·7	
Gujrat	1906	...	0·8	0·3	18·7	1·7	0·3	0·2	16·3	1·9	
Bhera ...	1917	...	0·2	0·7	19·2	1·8	0·03	0·7	17·8	1·7	
Sargodha	1907	1907	0·1	0·3	7·5	0·8	Not available.				
Khushab	...	1923	0·04	0·1	15·4	1·0	0·1	0·3	14·3	1·6	
Jhelum	1908	.	0·4	0·4	13·0	1·6	1·5	0·3	14·0	2·1	
Pind Dadan Khan ...	1909	1909	0·4	1·1	19·6	2·5	1·1	0·7	23·1	3·6	
Rawalpindi	1907	1887	0·6	0·4	18·0	2·2	0·5	0·1	16·4	3·4	
Murree	...	1894	0·1	0·1	14·4	1·7	0·7	0·4	14·8	0·9	
Mianwali	...	1904	0·2	0·5	18 3	1·7	Not available.				
Lyallpur	1904	1904	0·1	0·7	10·0	0·7	*2·8	*0·4	*16·3	*2·1	
Gojra	...	1916	0·2	0·5	6·7	0·7	†...	† ..	†0·5	†...	
Tandianwala ...	1917	1924	0·3	1·1	6·0	0·5	0·8 (a)	0·8 (a)	4·6 (a)	... (a)	
Toba Tek Singh ...	1920	1914	... (b)	0·8 (b)	3·2 (b)	0 2 (b)	..	...	4·6	0·4	
Chak Jhumra ...	...	1913	...	0·3	6·6	0·6	Not available.				
Multan	1907	...	0·2	0·9	17·6	2·3	0·01	1·9	16·9	2·4	
Shujabad	1922	...	0·03	0·7	19·6	1·4	0·7	1·1	31·1	2·9	
Dera Ghazi Khan ...	...	1918	0·03	0·3	15·1	2·2	2·0	0·6	15·9	1·6	
Kalka	...	1890	0·3	0·1	13·9	3·1	1·7	0·2	15·2	3·9	

* Figures available for four years only.
† Figures for 1914 and 1915 only.
(*a*) Figures available for three years only.
(*b*) Figures for 1913-14 not available.

APPENDIX D.

Chart I

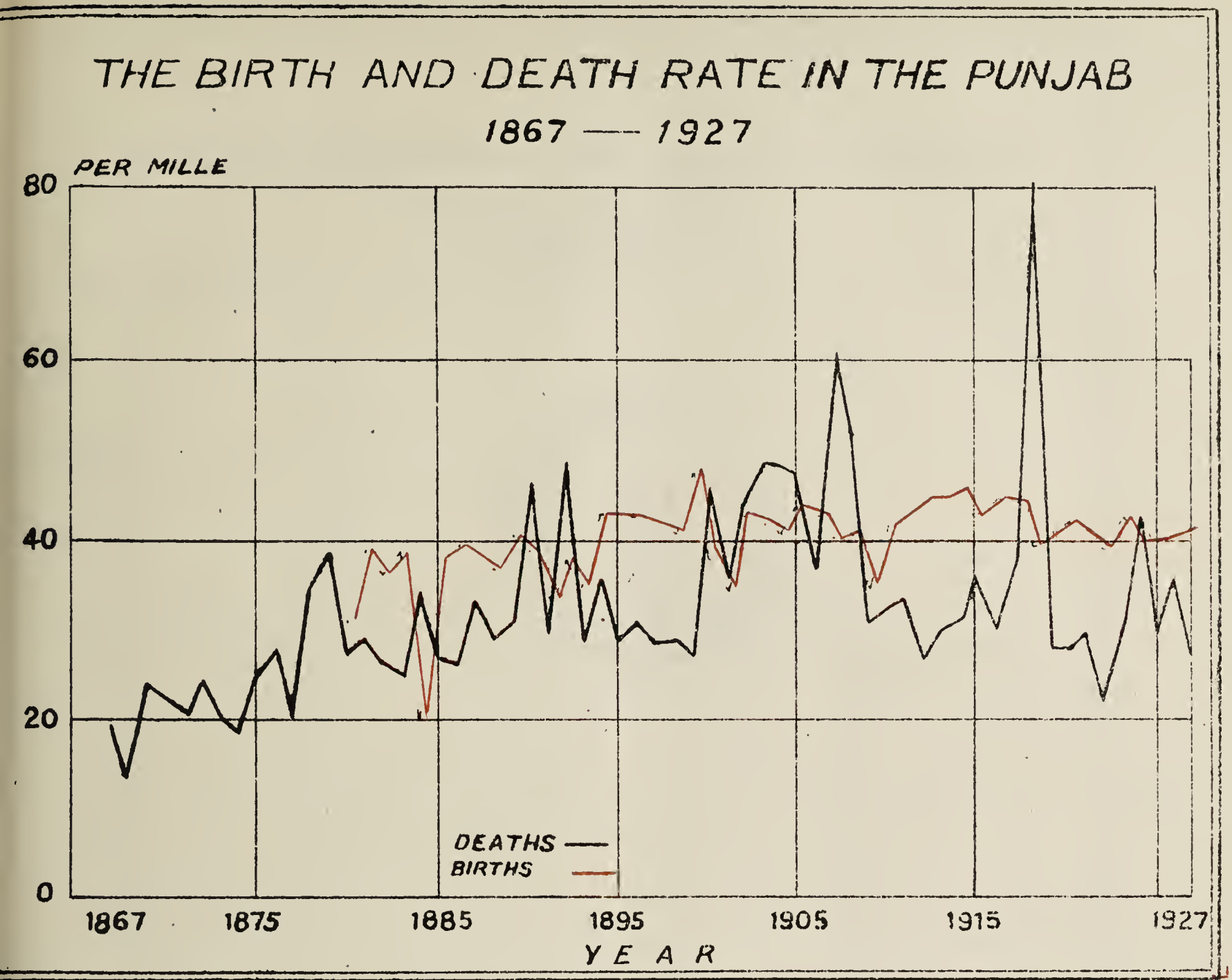

THE BIRTH AND DEATH RATE IN THE PUNJAB
1867 — 1927
PER MILLE
80
60
40
20
0
DEATHS
BIRTHS
1867
1875
1885
1895
1905
1915
1927
YEAR

Chart II

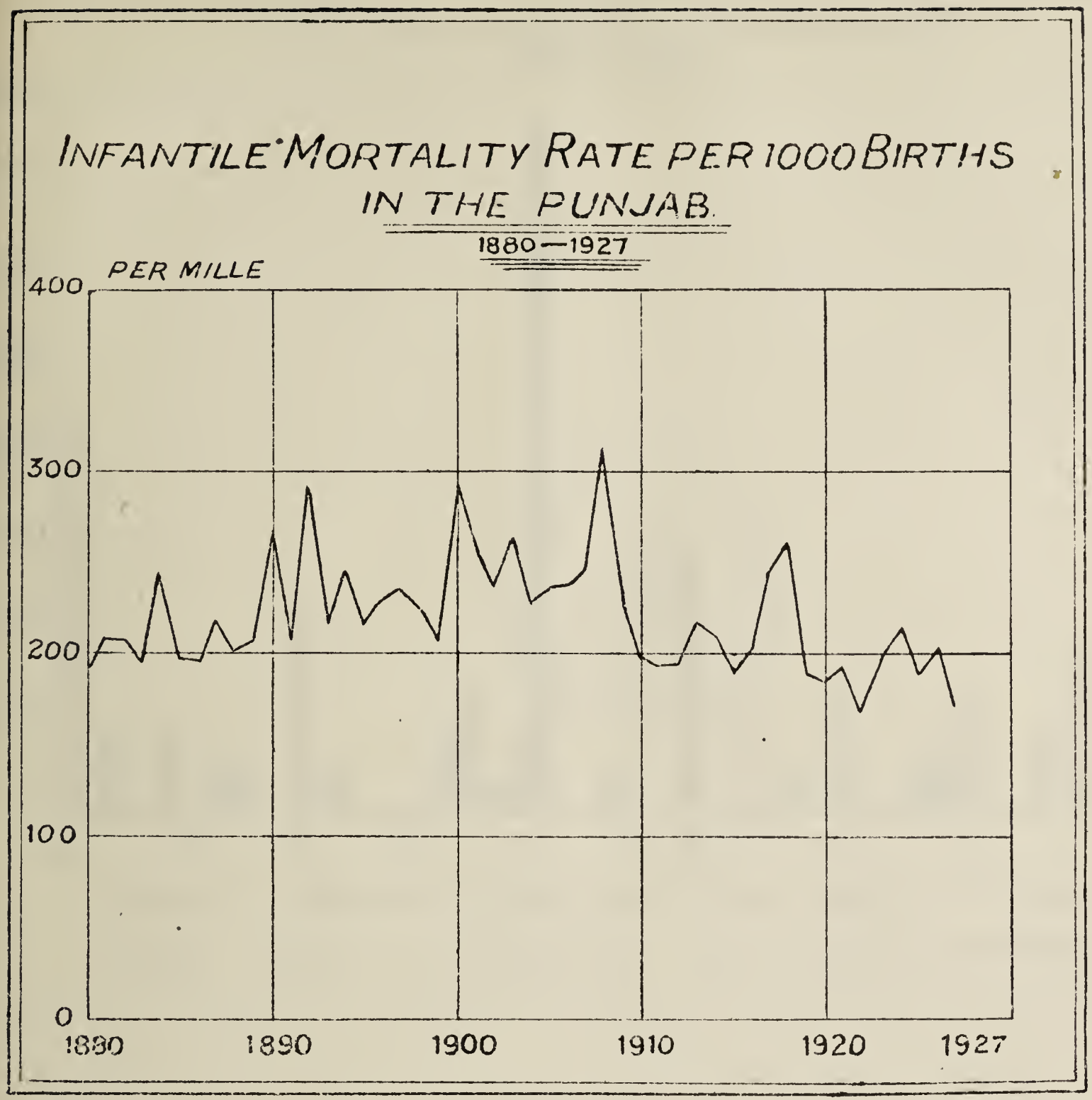

INFANTILE MORTALITY RATE PER 1000 BIRTHS
IN THE PUNJAB.
1880—1927
PER MILLE
400
300
200
100
0
1880
1890
1900
1910
1920
1927

Chart III

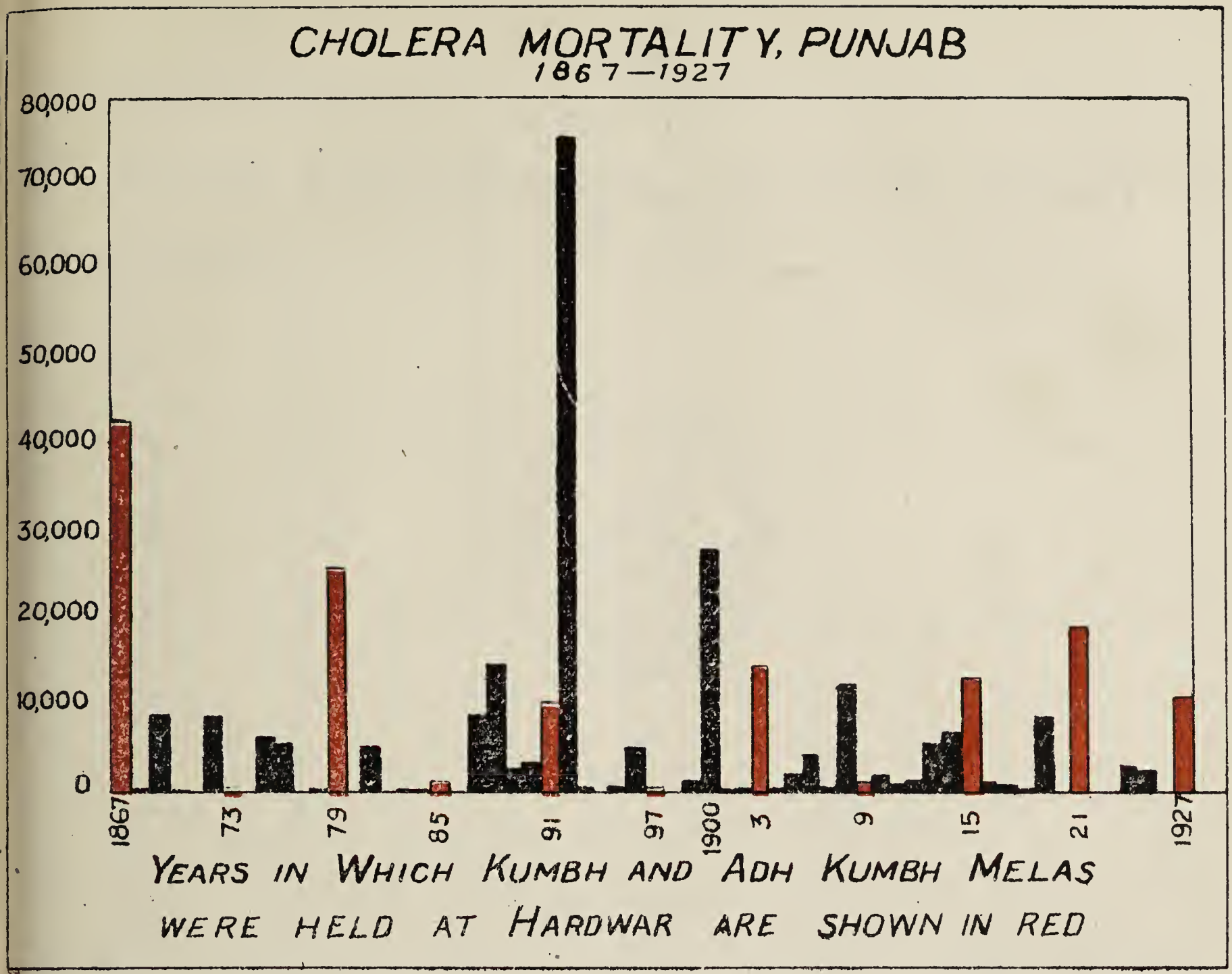

CHOLERA MORTALITY, PUNJAB
1867—1927
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
1867
73
79
85
91
97
1900
3
9
15
21
1927
YEARS IN WHICH KUMBH AND ADH KUMBH MELAS
WERE HELD AT HARDWAR ARE SHOWN IN RED

Chart IV

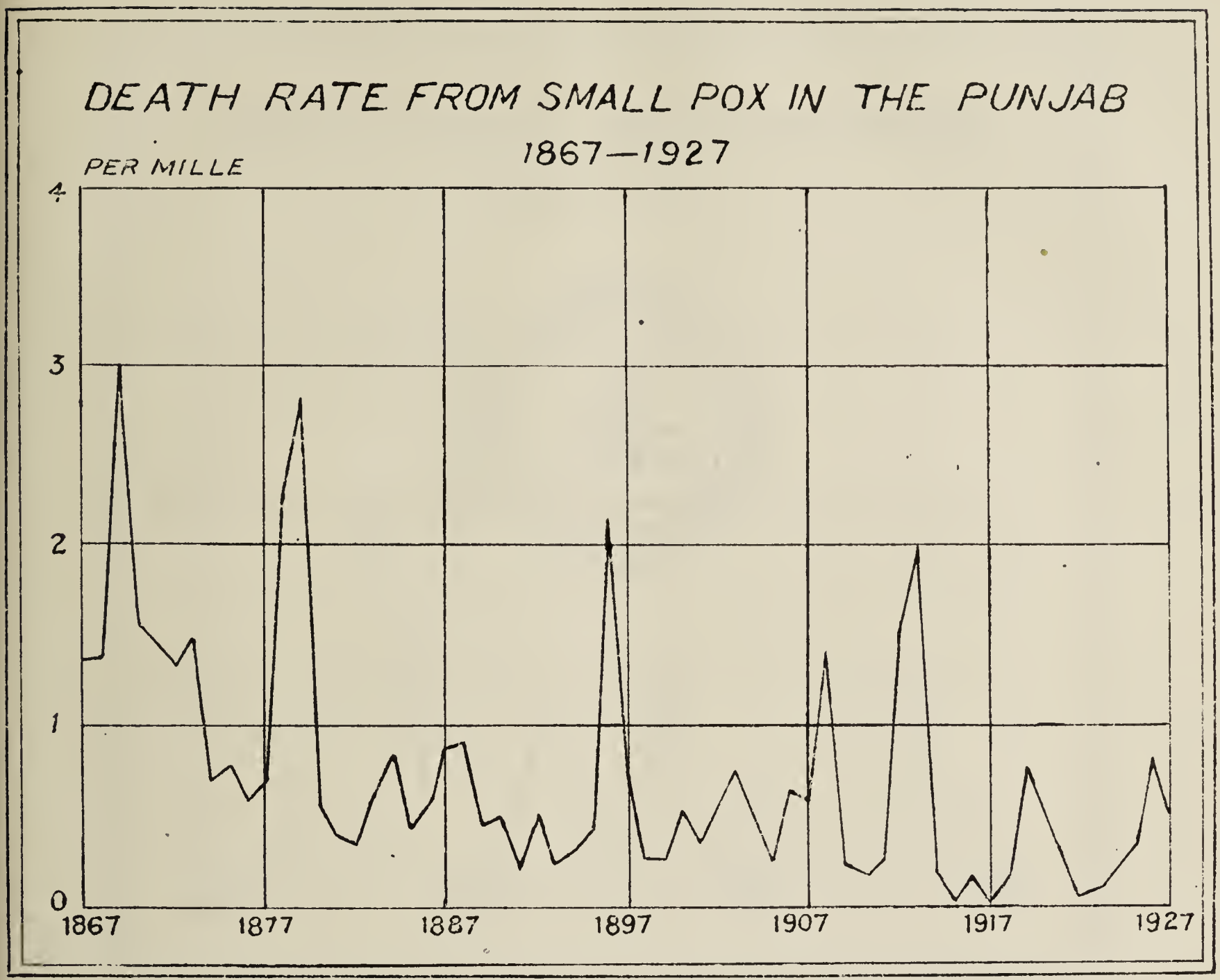

DEATH RATE FROM SMALL POX IN THE PUNJAB
1867—1927
PER MILLE
4
3
2
1
0
1867
1877
1887
1897
1907
1917
1927

Chart V

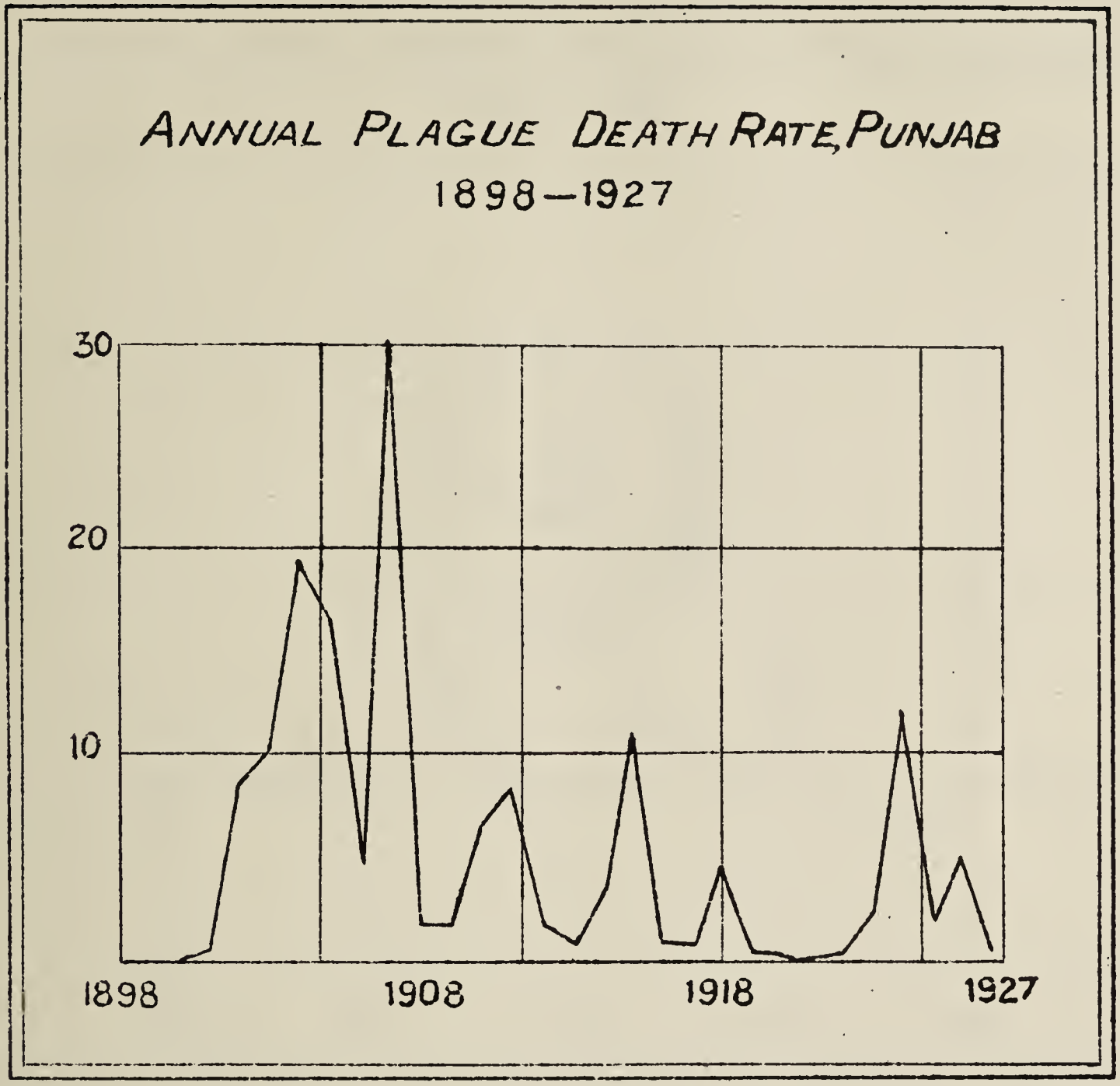

ANNUAL PLAGUE DEATH RATE, PUNJAB
1898—1927
30
20
10
1898
1908
1918
1927

Chart VI

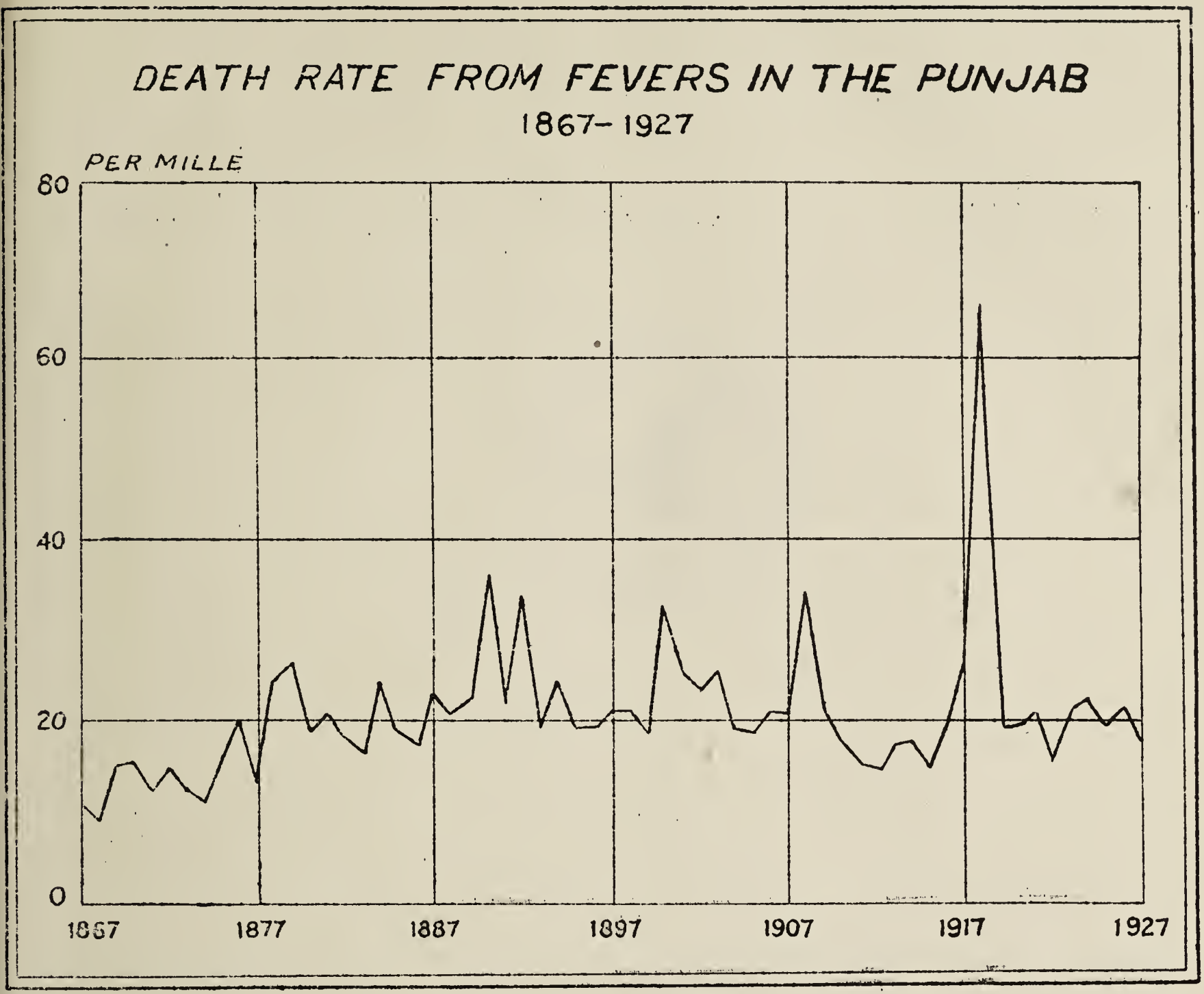
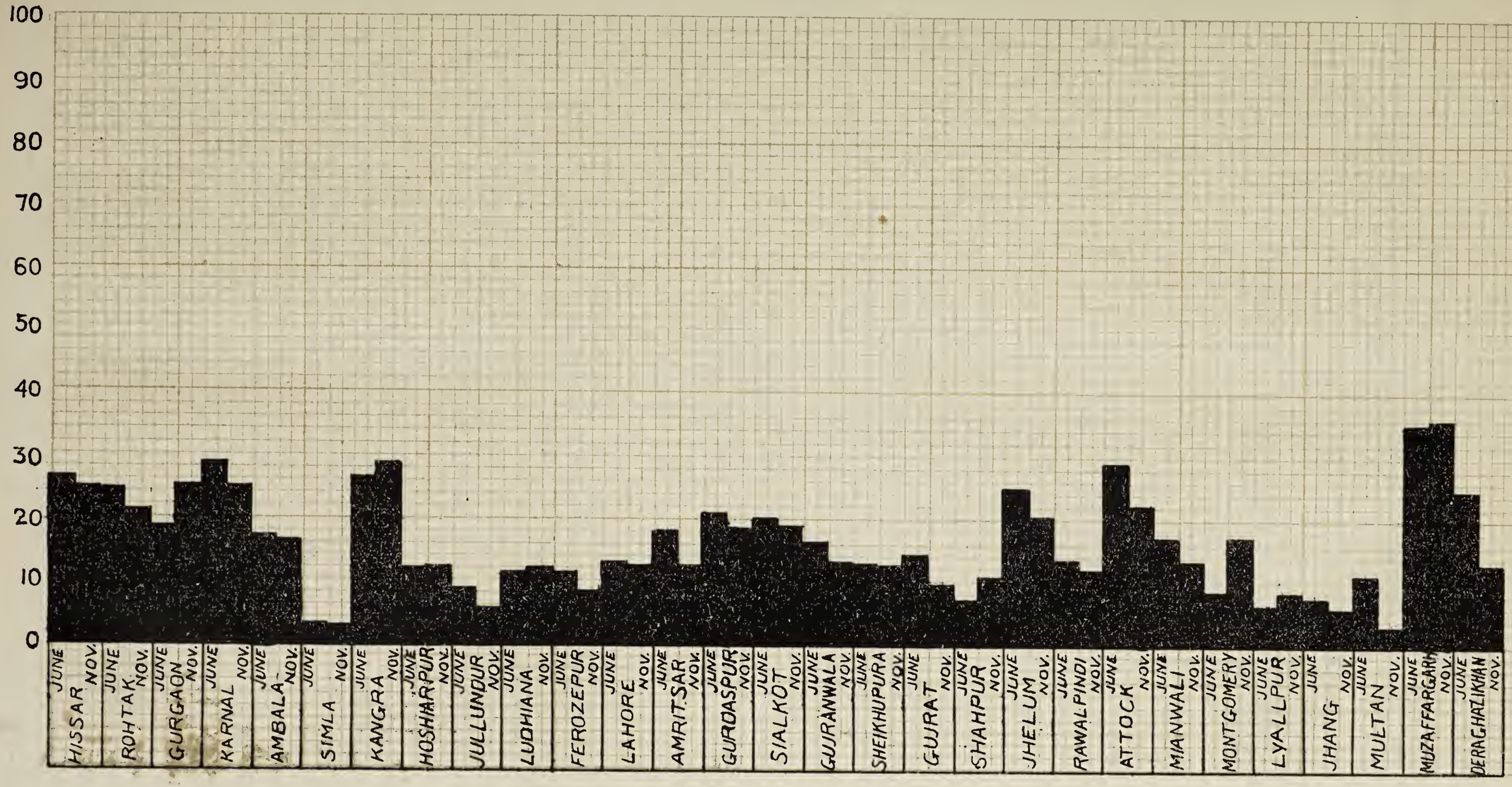

DEATH RATE FROM FEVERS IN THE PUNJAB
1867–1927
PER MILLE
80
60
40
20
0
1867
1877
1887
1897
1907
1917
1927

CHART VII

SPLEEN RATE OF THE PUNJAB BY DISTRICTS FOR THE YEAR 1927.



ANNUAL FORM No. I.

STATEMENT SHOWING THE BIRTHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING THE YFAR 1927.

Number.	Districts.	Population according to Census of 1921*			Number of births registered.			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.			Number.
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	AMBALA DIVISION.																
1	Hissar ..	435,562	381,248	816,810	18,379	16,719	35,098	22·5	20·5	43·0	109·9	14·0	...	21·3	19·0	40·4	1
2	Rohtak .	417,379	354,893	772,272	16,299	14,839	31,138	21·1	19·2	40·3	109·9	11·2	...	22·1	20·1	42·1	2
3	Gurgaon ...	367,800	314,203	682,003	15,835	14,000	29,835	23·2	20·5	43·8	113·1	9·4	...	24·8	22·4	47·2	3
4	Karnal ...	453,637	375,089	828,726	16,903	15,253	32,156	20·4	18·4	38·8	110·8	8·7	...	20·7	18·6	39·3	4
5	Ambala .	360,967	280,942	641,909	12,784	11,478	24,262	19·9	17·9	37·8	111·4	4·6	...	20·8	18·6	39·4	5
6	Simla ...	27,599	13,338	40,937	536	516	1,052	13·1	12·6	25·7	103·9	5·8	...	12·3	11·7	24·0	6
	JULLUNDUR DIVISION.																
7	Kangra ...	393,121	371,626	764,747	13,379	12,451	25,830	17·5	16·3	33·8	107·5	3·9	...	18·7	17·4	36·1	7
8	Hoshiarpur	498,662	428,757	927,419	20,018	17,826	37,844	21·6	19·2	40·8	112·3	9·1	...	23·0	20·3	43·3	8
9	Jullundur	450,045	363,480	813,525	19,359	17,935	37,294	23·8	22·0	45·8	107·9	18·6	...	23·3	21·6	44·9	9
10	Ludhiana	318,845	248,777	567,622	13,402	12,452	25,854	23·6	21·9	45·5	107·6	17·4	...	22·8	21·3	44·1	10
11	Ferozepore	593,760	480,547	1,079,307	23,388	20,465	43,853	21·7	19·0	40·6	114·3	13·9	...	19·9	17·1	37·0	11
	LAHORE DIVISION.																
12	Lahore ...	636,596	480,134	1,116,730	22,774	20,370	43,144	20·4	18·2	38·6	111·8	8·6	...	20·3	18·1	38·5	12
13	Amritsar ...	518,500	409,898	928,398	23,412	21,536	44,948	25·2	23·2	48·4	108·7	15·7	...	23·9	21·9	45·8	13
14	Gurdaspur..	467,576	380,238	847,814	20,388	18,904	39,292	24·0	22·3	46·3	107·9	13·5	...	23·3	21·5	44·8	14
15	Sialkot ...	472,231	396,703	868,934	20,485	18,483	38,968	23·6	21·3	44·9	110·8	17·1	...	22·5	20·4	42·8	15
16	Gujranwala	348,695	274,886	623,581	14,562	13,221	27,783	23·4	21·2	44·6	110·1	16·6	...	22·9	20·4	43·2	16
17	Sheikhupura	351,259	277,163	628,422	13,829	12,009	25,838	22·0	19·1	41·1	115·2	16·8	.	19·6	17·2	36·8	17
	RAWALPINDI DIVISION.																
18	Gujrat ...	438,550	385,496	824,046	16,987	14,978	31,965	20·6	18·2	38·8	113·4	16·9	..	20·3	18·2	38·4	18
19	Shahpur ...	392,086	327,832	719,918	15,420	14,074	29,494	21·4	19·6	41·0	109·6	17·0	...	20·1	17·6	37·7	19
20	Jhelum ...	240,464	235,104	475,568	9,601	8,435	18,036	20·2	17·7	37·9	113·8	14·7	...	19·9	17·4	37·3	20
21	Rawalpindi	292,317	248,376	540,693	11,234	10,076	21,310	20·8	18·6	39·4	111·5	16·4	...	19·5	17·7	37·2	21
22	Attock ...	262,028	246,001	508,029	9,949	8,638	18,587	19·6	17·0	36·6	115·1	12·1	...	19·5	16·6	36·1	22
23	Mianwali...	190,021	168,184	358,205	9,115	8,160	17,275	25·4	22·8	48·2	111·7	20·3		22·6	19·9	42·5	23
	MULTAN DIVISION.																
24	Montgomery	393,372	320,414	713,783	17,581	15,120	32,701	24·6	21·2	45·8	116·3	23·5	...	23·6	20·2	43·9	24
25	Lyallpur ...	522,707	413,235	935,942	25,591	23,603	49,194	27·3	25·2	52·6	108·4	27·6	...	25·1	22·7	47·9	25
26	Jhang ...	305,483	265,076	570,559	13,712	12,067	25,779	24·0	21·2	45·2	113·6	21·4	...	23·0	20·3	43·3	26
27	Multan ...	484,581	399,593	884,174	22,129	18,883	41,012	25·0	21·4	46·4	117·2	22·0	...	22·3	19·2	41·5	27
28	Muzaffargarh	308,605	259,873	568,478	11,688	9,626	21,314	20·6	16·9	37·5	121·4	13·8	...	17·5	14·8	32·3	28
29	Dera Ghazi Khan.	257,386	211,666	469,052	8,929	7,571	16,500	19·0	16·1	35·2	117·9	13·8	...	18·0	14·8	32·8	29
	TOTAL ...	11,204,884	9,312,772	20,517,606	457,668	409,688	867,356	22·3	20·0	42·3	111·7	14·8		21·6	19·3	40·9	

*Excluding population of military cantonments.

ANNUAL FORM

STATEMENT OF BIRTHS AND DEATHS REGISTERED IN EACH

1	2	3	4	5			6		7		
Number.	Districts.	Area in square miles.	Average population per square mile.	Population (Census 1921).			Births.		Number of deaths registered.		
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	5,213	157	435,562	381,248	816 810	35 098	43·0	12,724	10,981	23.706
2	Rohtak ...	2,919	265	417.379	354,893	772,272	31,138	40·3	12 315	10 129	22,444
3	Gurgaon	2,263	301	367 800	314,203	682,003	29,835	43·8	12,543	10,934	23,477
4	Karnal ..	3,125	265	453,637	375.089	828 726	32 156	38·8	13,693	11,206	24,899
5	Ambala	1,882	341	360,967	280,942	641,909	24,262	37·8	11 501	9.780	21,281
6	Simla . .	101	405	27.599	13,338	40 937	1,052	25·7	450	363	813
	JULLUNDUR DIVISION.										
7	Kangra	9,978	77	393,121	371.626	764,747	25,830	33·8	11.947	10,914	22,861
8	Hoshiarpur ...	2 247	413	498,662	428,757	927,419	37 844	40·8	15,460	13 918	29,378
9	Jullundur ...	1,431	568	450 045	363 480	813,525	37,294	45 8	11,475	10,627	22,102
10	Ludhiana	1 452	391	318 845	248,777	567 622	25.854	45·5	8 389	7,546	15,935
11	Ferozepore	4 286	252	598 760	480,547	1.079,307	43 853	40·6	15,786	13,003	28,789
	LAHORE DIVISION.										
12	Lahore ...	2,691	415	636,596	480,134	1,116,730	43,144	38·6	17 951	15 508	33 459
13	Amritsar	1 593	583	518 500	409 893	928,398	44,948	48·4	16 524	13,855	30,379
14	Gurdaspur	1 889	449	467 576	380 238	847,814	39,292	46·3	14,997	12,786	27,783
15	Sialkot	1 206	721	472 231	396.703	868 934	38 968	44·9	12,941	11,186	24,127
16	Gujranwala ...	2,309	270	348,695	274,886	623,581	27,783	44·6	9,552	7,919	17,471
17	Sheikhupura ...	3.198	197	351,259	277,163	628,422	25,838	41·1	8,481	6,760	15,241
	RAWALPINDI DIVISION.										
18	Gujrat	2 563	322	438,550	385 496	824,046	31,965	38·8	9,851	8,225	18,076
19	Shahpur	4.476	161	392,086	327,832	719,918	29 494	41·0	9,406	7,836	17,242
20	Jhelum ..	2 773	172	240 764	235,104	475,868	18,036	37 9	5,848	5,198	11,046
21	Rawalpindi	2,023	267	292 317	248,376	540,693	21 310	39·4	6,495	5,917	12,412
22	Attock	4,117	123	262,028	246,001	508,029	18.587	36·6	6,681	5,779	12,460
23	Mianwali	5,395	66	190,021	168,184	358,205	17,275	48·2	5,291	4,713	10,004
	MULTAN DIVISION.										
24	Montgomery ...	4,623	154	393,372	320,414	713.786	32,701	45·8	8,608	7,319	15,927
25	Lyallpur	2,759	339	522,707	413,235	935,942	49,194	52·6	12,559	10,811	23,370
26	Jhang	3,452	168	305,483	265,076	570,559	25,779	45 2	7,443	6,121	13,564
27	Multan . ..	5,939	149	484,581	399.593	884,174	41,012	46·4	11,547	10,020	21,567
28	Muzaffargarh ...	6,052	94	308,605	259.873	568,478	21,314	37·5	7,432	6,062	13,494
29	Dera Ghazi Khan ...	5.325	88	257,386	211,663	469,052	16,500	35·2	5,578	4,465	10,043
	Total ...	97,280	211	11,204 834	9,312,772	20,517,606	867,356	42·3	303,468	259,881	563,349

NOTE.—Those born dead are not included in this or any other statement.

II.

ISTRICT OF THE PUNJAB DURING THE YEAR 1927.

8	9											10			11
Number of deaths of males to every 100 deaths of females.	Deaths per 1,000 of population from											Mean ratio of deaths per 1,000 during previous five years.			
	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	*All causes.*						
									Males.	Females.	Total.	Males.	Females.	Total.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
115·9	0·6	0·1	0·5	19·1	0·3	2·3	0·3	5·5	29·2	28·8	29·0	32·0	36·1	33·9	1
121·6	0·3	0·1	0·9	20·1	0·4	2·5	0·3	4·5	29·5	28·5	29·1	45·2	49·0	46·9	2
114·7	0·1	0·03	0·5	21·6	0·4	2·8	0·2	8·6	34·1	34·8	34·4	35·3	39·0	37·0	3
122·2	0·2	0·4	0·4	20·9	0·2	2·8	0·3	4·9	30·2	29·9	30·1	45·0	50·3	47·4	4
117·6	0·3	0·4	0·8	13·7	0·5	12·0	...	5·5	31·9	34·8	33·2	33·1	37·5	35·0	5
124·0	0·02	0·2	...	1·8	0·8	...	0·1	16·9	16·3	27·2	19·9	16·5	24·5	19·1	6
109·5	0·01	0·2	...	12·5	4·0	6·0	0·7	6·5	30·4	29·4	29·9	29·6	29·1	29·3	7
111·1	0·2	1·2	0·3	22·3	0·02	2·8	0·2	4·3	31·0	32·5	31·7	28·9	30·1	29·4	8
108·0	0·3	0·2	0·04	18·6	0·4	2·4	0·3	5·0	25·5	29·2	27·3	26·8	30·7	28·6	9
111·2	0·7	0·2	0·3	15·4	0·5	3·1	0·3	7·6	25·3	30·3	28·1	29·2	35·0	31·8	10
121·4	3·2	0·1	1·0	14·1	0·3	1·9	0·3	5·9	26·4	27·1	26·7	27·8	30·4	29·0	11
115·8	3·6	0·3	0·3	13·6	0·9	3·8	0·4	6·6	28·2	32·3	30·0	29·9	35·8	32·5	12
119·3	0·7	0·5	0·6	20·3	0·4	4·4	0·3	5·5	31·9	33·3	32·7	34·1	40·2	36·8	13
117·3	0·1	0·3	0·9	17·5	0·3	4·3	0·2	8·4	32·1	33·6	32·8	32·3	36·2	34·1	14
115·7	0·02	0·5	1·0	17·4	0·4	4·2	0·2	4·1	27·4	28·2	27·3	40·1	47·5	43·5	15
120·3	0·01	0·3	0·8	19·5	0·3	2·3	0·4	3·9	27·4	28·8	28·0	35·9	42·2	38·7	16
125·5	0·2	1·1	1·0	17·4	0·1	0·3	0·3	3·6	24·1	24·4	24·3	27·3	31·1	29·0	17
119·8	0·02	0·5	0·2	14·9	0·2	2·5	0·2	3·4	22·5	21·3	21·9	38·0	42·0	39·9	18
120·0	0·001	0·5	0·3	16·0	0·2	1·5	0·5	5·0	24·0	23·9	24·0	24·6	25·0	25·3	19
112·5	0·002	0·2	0·2	15·7	0·3	2·3	0·5	4·2	24·3	22·1	23·2	31·4	30·8	31·1	20
109·8	0·01	0·1	...	14·3	2·3	3·0	0·5	2·3	22·2	23·8	23·0	27·9	30·3	29·0	21
115·6	0·001	0·3	0·001	19·2	0·1	1·5	0·4	3·0	25·5	23·5	24·5	26·9	25·6	26·3	22
112·3	...	0·1	0·002	22·2	0·1	1·0	0·3	4·2	27·3	28·0	27·9	27·2	27·4	27·3	23
117·6	0·7	1·3	0·1	16·1	0·1	0·3	0·5	3·1	21·9	22·8	22·3	25·0	26·3	25·7	24
116·2	0·3	1·0	0·1	17·7	0·2	1·1	0·3	4·5	24·0	26·2	25·0	24·4	28·8	26·3	25
121·6	0·01	0·1	...	15·4	0·9	1·8	0·5	5·2	24·4	23·1	23·8	26·9	27·5	27·2	26
115·2	0·03	0·3	0·4	18·1	0·3	1·4	0·4	3·5	23·8	25·1	24·4	25·3	27·1	26·1	27
122·6	0·1	0·3	0·01	21·2	0·1	0·4	0·3	1·3	24·1	23·3	23·7	28·7	28·5	28·6	28
124·9	0·01	1·1	...	17·4	0·2	0·6	0·3	1·8	21·7	21·1	21·4	27·4	26·8	27·1	29
116·8	0·6	0·5	0·4	17·5	0·5	2·8	0·3	4·9	27·1	27·9	27·5	31·1	34·3	32·6	

ANNUAL FORM No. III.

DEATHS REGISTERED IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

1	2	3												4
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	AMBALA DIVISION.													
1	Hissar ...	2,095	1,950	1 850	2,124	2,175	2,336	2,333	1,539	1,682	1,911	1,736	1,974	23,705
2	Rohtak ...	2,585	2,188	2 117	2,215	1,976	2,319	1.652	1,167	1,274	1,534	1,589	1,828	22,444
3	Gurgaon ...	2,870	2 273	1,978	1,569	1,521	1 618	1,343	1,124	1,774	2,673	2,151	2,583	23 477
4	Karnal .	3,169	2 609	2,270	1,983	2 394	2 364	1,981	1,401	1,720	1,707	1,519	1,782	24,899
5	Ambala ...	2,111	2,210	2,139	1 745	2.013	1,850	1,621	1,163	1,634	1,972	1,465	1,358	21,281
6	Simla ...	58	41	64	73	76	80	92	63	76	71	66	53	813
	JULLUNDUR DIVISION.													
7	Kangra ...	1,772	2,050	2,164	1,654	2 289	2,227	1,719	1,523	1,994	2,083	1,623	1,763	22,861
8	Hoshiarpur ...	2,525	2,419	2,589	2 579	3,117	2,582	1.986	1,805	2,607	2 680	2,184	2,305	29,378
9	Jullundur ...	2,134	1,862	2,043	1,745	2.020	1,743	1 662	1,867	1,845	1 826	1,669	1,686	22,102
10	Ludhiana ...	1,330	1,200	1,346	1 336	1,555	1 341	1,696	1,239	1,291	1,188	1,228	1 185	15 935
11	Ferozepore ...	2,182	2,062	2,320	2,482	2,596	2 442	4,853	2.483	1,702	1,625	1,954	2 088	28,789
	LAHORE DIVISION.													
12	Lahore ...	2,665	2,376	2,198	2 095	2 985	3,846	5,452	2,779	2,160	2,126	2,232	2,545	33,459
13	Amritsar ...	3,086	2,410	2,265	2,111	2 779	2,336	2,659	2 821	2,640	2,342	2,586	2,344	30,379
14	Gurdaspur ...	2,572	2,257	2,273	2,002	2,472	1,897	1,719	1,878	2,681	3,044	2,441	2,547	27,783
15	Sialkot ...	2,632	2,110	2,096	1,835	2,161	1,632	1,565	1,620	1,974	2,139	2,128	2,235	24,127
16	Gujranwala ...	2,290	1,748	1,471	1,291	1,582	1402	1,130	1,266	1,069	1,099	1,341	1,782	17,471
17	Sheikhupura ...	1,471	1,346	1,260	1,331	1,612	1 334	1,339	1,080	971	1,053	1,101	1,340	15,241
	RAWALPINDI DIVISION.													
18	Gujrat ...	2,212	1,765	1,696	1,363	1,501	1,362	1,203	1,166	1,366	1,391	1,446	1,605	18,076
19	Shahpur ...	1,597	1,581	1,730	1,859	1,901	1,686	1,313	1,016	1,008	998	1,121	1,432	17,242
20	Jhelum ...	1,358	1,134	943	843	831	828	767	732	829	831	911	1,039	11,046
21	Rawalpindi ...	1,398	1,165	1,037	967	971	950	818	834	921	992	1,152	1,207	12,412
22	Attock ...	1,547	1,239	1,108	844	768	800	870	954	876	964	1,137	1,353	12,460
23	Mianwali ...	956	1,075	1,194	961	800	804	730	580	699	655	708	842	10,004
	MULTAN DIVISION.													
24	Montgomery ...	1,532	1,400	1,326	1,266	1,305	1,361	1,481	1,153	1,048	1,006	1,234	1,815	15,927
25	Lyallpur ...	1,925	1,860	1,864	2,061	2,620	2,235	2,029	1,831	1,740	1,674	1,668	1,863	23,370
26	Jhang ...	1,347	1,331	1,344	1,246	1,126	1,131	1,088	898	803	874	965	1,111	13,564
27	Multan ...	2,401	2,072	1,780	1 866	1,992	1,758	1,645	1,311	1,364	1,430	1,858	2,090	21,567
28	Muzaffargarh ...	1,555	1,433	1,289	1,046	1,253	1,032	892	758	706	1,027	1,193	1,310	13,494
29	Dera Ghazi Khan	1,094	1,035	1,050	863	934	735	689	549	591	713	888	902	10,043
	Total for the Province.	56,469	50,201	48,804	45,355	51,625	48,031	8,327	38,600	41 045	43,628	43,297	47,967	5,63,349
	Ratio of deaths per 1,000 in each month.	2·75	2·45	2·38	2·21	2·52	2·34	2·36	1 88	2·00	2·13	2·11	2·34	27·46

ANNUAL FORM No. IV.

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED AGE PERIODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

ANNUAL F

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED

1	2	3									
		Population according to the census of 1921.									
Number	Districts.	*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Total.*	
		Males.	Females.	Males.	Females	Males.	Females.	Males.	Females.	Males.	
1	2	3	4	5	6	7	8	9	10	11	
1	Hissar ...	112,889	103,054	322,126	277,714	486	431	61	49	435,562	
2	Rohtak ..	65,488	59,547	346,066	290,538	5,188	4,798	37	10	417,379	
3	Gurgaon ...	115,933	100,927	251,172	212,648	609	564	86	64	367,800	
4	Karnal ..	126,916	108,702	324,923	264,803	1,784	1,568	14	16	453,637	
5	Ambala ..	106,123	86,972	252,231	192,265	1,637	1,425	976	280	360,967	
6	Simla ...	4,611	1,244	21,433	10,205	487	329	1,068	1,560	27,599	
7	Kangra ..	21,025	17,210	370,380	252,749	142	142	1,574	1,525	393,121	
8	Hoshiarpur .	155,165	134,133	341,419	292,957	1,982	1,657	96	10	498,662	
9	Jullundur .	197,011	165,932	250,831	196,055	1,850	1 455	353	38	450,045	
10	Ludhiana ...	106,764	86,197	211,208	161,821	853	729	20	30	518,845	
11	Ferozepore ...	259,451	216,039	336,222	262,804	2,034	1,526	1,053	178	598,760	
12	Lahore ...	357,101	285,083	253,608	174,908	22,458	18,939	3,429	1,204	636,596	
13	Amritsar ...	232,747	190,653	278,793	213,423	6,590	5,636	370	186	518,500	
14	Gurdaspur ..	231,410	190,761	218,188	174,712	17 908	14,635	70	130	467,576	
15	Sialkot ...	288,815	246,325	158,436	125,740	28,670	24,491	1,310	147	472,231	
16	Gujranwala ..	246,243	196,904	87,253	65,869	15,141	12,050	58	63	348,695	
17	Sheikhupura ...	224,231	181,095	110,110	82,532	16,660	13 358	258	178	351,259	
18	Gujrat ...	377,925	331,759	59,348	52,641	1,242	1,046	35	50	438,550	
19	Shahpur ...	323,746	272,354	62,081	50,465	6,209	4,977	50	36	392,086	
20	Jhelum ...	212,844	209,447	27 415	25,528	199	125	6	4	240,464	
21	Rawalpindi ...	241,100	215,743	45,536	31,035	1,661	928	4,020	670	292,317	
22	Attock ...	238,983	224,507	22,741	21,411	115	56	189	27	262,028	
23	Mianwali ..	162,581	146,295	27,153	21,807	123	28	164	54	190,021	
24	Montgomery ...	281,044	232,011	106 543	83,775	5,737	4,600	43	28	393,372	
25	Lyallpur ...	308,897	254,089	190,929	140,499	22,830	18,600	51	47	522,707	
26	Jhang ...	256,594	218,794	48,634	46,088	249	189	6	5	305,483	
27	Multan ..	396,651	332,194	84,408	65,264	2,341	1,999	1,181	136	484,581	
28	Muzaffargarh ...	268,374	224,995	39,951	34,802	72	68	208	8	308,605	
29	Dera Ghazi Khan ..	226,773	184,658	30,585	26,989	19	15	9	4	257,386	
	Total ...	6,147,435	5,217,624	4,875,328	3,952,047	165,276	136,364	16,795	6,737	11,204,834	9
	Population according to Census of 1921.										
	Ratio per 1,000 living for the Province.										

. IV.

ERIODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

4																
UNDER ONE YEAR.																
NOT EXCEEDING ONE MONTH.								OVER ONE MONTH AND NOT EXCEEDING SIX MONTHS.								
Muhammadans.		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1
502	478	853	642	...	...	...	..	311	298	640	464	...		...		1
175	145	1 009	712	1	..	...	...	99	84	703	610	...	1	...	...	2
146	189	435	299	...	...	..	...	313	337	600	512	...	...	...	...	3
337	251	1,039	881	...	...	...	...	238	183	697	651	...	...	...	...	4
273	253	809	688	...	...	..	...	157	117	556	560	...	...	...	...	5
14	9	41	44	1	...	...	...	7	10	32	22	1	1	...	...	6
73	68	1,395	1,157	...	...	..	..	65	62	817	903	2	...	...	...	7
572	535	1,201	1,022	3	2	...	...	491	403	726	661	2	2	..	...	8
975	873	1,084	1,279	..	...	...	...	320	300	393	398	...	...	...	...	9
465	502	704	563	1	...	...	...	162	314	502	314	..	1	...	...	10
827	725	835	618	7	6	2	1	561	492	693	563	9	5	1	1	11
921	730	633	570	5	4	..	...	506	473	536	517	9	10	...	...	12
1,098	993	1,149	889	1	2	3	4	640	565	649	567	...	...	...	...	13
1,011	841	944	758	102	81	...	..	486	387	450	376	47	46	...	...	14
696	603	472	321	78	70	...	..	803	549	308	361	50	67	...	...	15
702	651	215	126	96	32	15	7	483	425	165	128	58	31	6	3	16
659	502	250	175	52	39	12	10	344	235	226	171	45	48	12	4	17
946	766	171	111	5	8	...	1	592	462	73	63	1	2	...	...	18
1,043	837	211	188	24	13	1	2	512	396	76	58	8	5	1	2	19
782	620	66	65	...	2	...	...	349	309	27	25	...	...	...	...	20
441	378	89	77	3	...	.	...	388	339	45	46	2	2		...	21
756	666	58	51	..	...	...	1	329	260	23	23	...	...	2	...	22
517	400	20	20	...	...	..	...	213	178	23	17	...	...	..	...	23
800	788	245	200	17	18	4	1	471	435	174	145	7	8	2	..	24
1,078	948	591	520	85	73	21	19	709	623	389	342	55	49	14	12	25
1,305	1,155	72	65	...	...	...	...	585	400	36	35	...	...	...	...	26
1,535	1,284	216	225	9	7	3	2	660	491	300	270	11	6	2	1	27
723	583	131	98	..	...	...	...	576	442	88	74	...	...	...	...	28
477	330	115	81	..	...	6	2	553	407	92	70	...	...	1	2	29
19,858	17,103	15,153	12,445	490	354	67	50	11,923	9,976	10,039	8,946	307	284	41	25	

Not available.

ANNUAL FO

DEATHS REGISTERED BY CEXES AND CLASSES ACCORDING TO SPECIFIED C

1	2	4													
		UNDER ONE YEAR—CONCLUDED.													
		OVER SIX MONTHS AND UNDER TWELVE MONTHS.								TOTAL UNDE					
Number.	DISTRICTS.	*Muhammadans.*		*Hindus*		*Indian Christians.*		*Other Classes*		*Muhammadans.*		*Hindus.*		*Indian Christian*	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	
1	2	29	30	31	32	33	34	35	36	37	38	39	40	41	
1	Hissar	211	301	559	373	...	..	...	...	1,024	1,077	2,052	1,479	.	
2	Rohtak	103	99	722	646	1	...	...	...	377	328	2,434	1,968	2	
3	Gurgaon	320	240	819	718	..	...	..	...	779	766	1,854	1,529	...	
4	Karnal	200	168	488	375	...	...		...	775	602	2,224	1,907	...	
5	Ambala	203	189	557	418	...	...	...	...	633	559	1,922	1,666	...	
6	Simla	6	10	34	20	1	1	...	...	27	29	107	86	3	
7	Kangra	81	57	573	656	...	...	...	...	219	187	2,785	2 716	2	
8	Hoshiarpur ...	121	109	1,008	774	1	...	...	...	1,184	1,047	2,935	2,457	6	
9	Jullundur ...	355	339	545	468	...	..	...	...	1,650	1,512	2,022	2,145	...	
10	Ludhiana ...	286	181	337	386	.	...	...	...	913	997	1,543	1 263	1	
11	Ferozepere ...	570	483	433	373	2	3	1	...	1,958	1.700	1,961	1,554	18	
12	Lahore	415	420	568	485	7	5	...	...	1,842	1 623	1 737	1,572	21	
13	Amritsar ...	475	488	495	318	1	1	5	3	2,213	2,046	2,293	1,774	2	
14	Gurdaspur ...	510	465	476	420	47	48	..	..	2,007	1,693	1 870	1,554	196	
15	Sialkot ...	618	507	309	323	74	56	...	...	2,116	1,659	1,089	1,005	202	
16	Gujranwala ...	506	445	114	105	77	39	4	3	1,691	1,521	494	359	231	
17	Sheikhupura ...	400	364	227	158	49	32	4	9	1,403	1,101	703	504	146	
18	Gujrat ...	571	476	103	56	1	3	1	1	2,109	1 704	347	230	7	
19	Shahpur .	954	751	137	148	14	11	...	..	2,509	1,984	424	394	46	
20	Jhelum ...	235	232	29	21	...	...	.	...	1.316	1,161	122	111	...	
21	Rawalpindi ...	743	647	75	66	1	1	...	...	1,572	1,364	209	189	6	
22	Attock ...	276	223	27	14	...	...	...	...	1,361	1,149	108	88	..	..
23	Mianwali . .	162	197	22	17	...	...	...	...	892	775	65	54	...	
24	Montgomery ...	498	338	84	149	10	12	3	2	1 829	1,561	603	494	34	
25	Lyallpur ...	404	357	220	195	30	28	7	7	2,191	1,928	1,200	1,057	170	
26	Jhang ..	276	201	42	29	...	...	..	...	2,166	1 756	150	129	...	...
27	Multan ...	701	605	60	60	3	2	3	2	2,896	2,380	576	555	23	
28	Muzaffargarh ..	430	400	51	23	..	...	...	...	1,729	1,425	270	195	...	...
29	Dera Ghazi Khan ...	362	317	54	42	...	..	2	1	1,392	1,(54	261	193	...	...
	Total ...	10,992	9,609	9,168	7,836	319	242	30	28	42,773	36,683	34,360	29,227	1,116	8
	Population according to Census of 1921.	Not available.								240,139	232,641	176,259	168,581	7,514	7,2
	Ratio per 1,000 living for the Province.									178·12	157·70	194·94	173·37	148·52	121·

V—CONTINUED.

ODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

	5								6				1
	ONE YEAR AND UNDER FIVE YEARS.								FIVE YEARS AND UNDER TEN YEARS.				
lasses.	*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Muhammadans*		*Hindus*		
Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Male-.	Females.	Males.	Females.	Serial No.
44	45	46	47	48	49	50	51	52	53	54	55	56	1
...	931	902	1,408	1,037	...	...	...	...	261	312	517	389	1
...	231	227	1,785	1,413	1	1	...	..	225	146	944	819	2
...	314	226	614	550	..	...	...	...	442	422	793	753	3
...	600	401	1,333	1,158		.	...		178	155	610	435	4
..	361	346	1,432	1,321	...	..	...	...	211	167	295	260	5
...	7	11	33	26	2	2		...	...	1	5	3	6
...	50	32	680	605	...		...	...	42	23	690	614	7
...	1,012	957	2,427	2,282	5	3		..	232	256	535	554	8
...	1,116	1,118	1,149	1,060	...	...	...	...	232	224	234	210	9
...	137	69	267	296	1	1		...	101	88	167	182	10
2	708	726	972	600	2	1	..	...	758	502	457	460	11
..	1,394	1,380	1,281	942	61	41	..	...	285	333	322	359	12
7	1,130	1,086	1,452	961	21	15	49	45	348	398	602	428	13
..	1,442	1,523	1,377	1,297	94	85		...	404	375	381	367	14
...	1,252	1,112	469	362	127	100	...	...	215	254	92	97	15
13	1,323	1,205	311	315	122	63	14	12	348	369	108	116	16
23	1,423	1,401	371	143	41	21	5	4	293	334	181	91	17
2	1,731	1,577	269	214	5	4	3	..	451	452	54	45	18
4	1,569	1,471	178	157	28	21	2	1	463	405	63	58	19
..	785	749	87	92	1	..	...		249	243	19	13	20
...	1,000	880	98	100	5	1	...	...	311	270	41	45	21
1	1,070	1,007	85	50	..	...	.	1	353	312	32	33	22
...	405	400	18	26	...	...	...	...	472	349	30	29	23
3	1,312	1,214	401	390	22	23	6	7	474	344	108	179	24
38	1,034	902	563	494	81	70	20	17	865	770	470	418	25
..	657	598	212	101	...	...		...	201	286	258	114	26
5	1,400	1,201	532	516	6	3	4	2	481	357	166	200	27
...	907	744	114	87	...	...	...		360	330	76	41	28
5	883	759	137	104		..	3	2	360	288	24	21	29
103	26,264	24,220	20,060	16,699	625	455	106	91	9,615	8,765	8,274	7,333	
20	587,475	566,315	430,242	408,415	18,175	17,235	107	98	950,073	831,333	683,426	592,470	
?	44·71	42·77	46·62	40·89	34·39	26·40	634·73	928·57	10·12	10·54	12·11	12·38	

ANNUAL FO

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED A

1	2	6—*concl.*				7						
		FIVE YEARS AND UNDER TEN YEARS—CONCLD.				TEN YEARS AND UNDER FIFTEEN YEARS.						
Number.	Districts.	*Indian Christians.*		*Other Classes.*		*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other C*
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.
1	2	57	58	59	60	61	62	63	64	65	66	67
1	Hissar ...	...	..	...	...	215	201	317	307	1	...	..
2	Rohtak ...	1	1	...	...	203	154	700	609	1	..	..
3	Gurgaon ...	...	...	...	..	487	364	965	963	...	..	...
4	Karnal ...	...	...	...	...	286	139	412	450	1	..	...
5	Ambala ...	...	...	...	...	193	149	201	216	..	...	...
6	Simla ...	..	...	...	...	1	3	6	8	..	1	...
7	Kangra ...	...	...	..	...	37	25	695	724	...	...	...
8	Hoshiarpur ...	2	1	...	...	124	157	262	299	2	1	...
9	Jullundur ...	...	...	...	...	148	139	146	151	...	...	..
10	Ludhiana ...	2	1	...	...	109	109	196	227	1	...	...
11	Ferozepore ...	1	1	...	1	503	447	506	371	2	1	1
12	Lahore ...	39	36	...	...	285	377	517	429	41	31	...
13	Amritsar ...	10	8	33	29	319	318	539	428	7	6	34
14	Gurdaspur ...	31	18	...	...	247	242	240	251	22	15	..
15	Sialkot ...	29	18	...	..	230	233	98	113	32	24	..
16	Gujranwala ...	34	21	9	4	243	274	98	85	25	19	3
17	Sheikhupura ...	43	28	6	5	153	180	168	134	44	30	9
18	Gujrat ...	3	1	...	1	233	265	38	38	..	...	...
19	Shahpur ...	3	5	...	...	243	225	41	37	8	3	..
20	Jhelum ...	...	...	...	...	196	134	14	22	...	...	...
21	Rawalpindi ...	1	...	...	...	250	231	38	37	1	1	..
22	Attock ...	...	...	..	..	197	158	23	19	...	..	...
23	Mianwali ...	...	...	...	...	448	397	36	33	..	...	..
24	Montgomery ...	6	8	2	3	240	198	116	85	10	12	2
25	Lyallpur ...	67	59	10	6	777	675	423	363	60	52	10
26	Jhang ...	...	...	...	...	201	190	195	183	..	...	...
27	Multan ...	1	..	3	1	344	362	25	37	3	2	2
28	Muzaffargarh ...	...	...	...	...	298	241	65	39	...	..	...
29	Dera Ghazi Khan ...	...	...	1	2	171	140	14	12	..	...	...
	Total ...	273	206	64	52	7,441	6,732	7,097	6,672	261	193	61
	Population according to Census of 1921.	28,011	24,222	158	128	770,738	584,428	591,587	438,614	22,692	16,818	177
	Ratio per 1,000 living for the Province.	9·75	8·50	405·06	406·25	9·65	11·52	12·00	15·21	11·50	11·75	344·63

IV—CONTINUED.

IODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

8								9								
FIFTEEN YEARS AND UNDER TWENTY YEARS.								TWENTY YEARS AND UNDER THIRTY YEARS.								
ammadans.		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		
Females.		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Number.
70		71	72	73	74	75	76	77	78	79	80	81	82	83	84	
101		303	356	...	...	...	...	301	208	629	642	1	...	...	...	1
185		561	518	1	1	...	...	150	114	706	652	2	1		...	2
451		826	975	1	...	...	...	661	462	856	815	...	...	...	...	3
178		630	459	...	...	...	...	421	378	1,068	910		1	...	...	4
137		223	179	...	...	...	...	233	319	622	547	1	...	...	...	5
7		10	11	1	1	...	...	12	11	42	28	2	1	...	...	6
26		750	767	...	...	...	...	29	20	868	842	...	...	...	...	7
105		233	306	1	...	...	...	236	245	504	802	1	2	...	...	8
120		110	153	...	...	...	...	223	233	278	278	...	...	...	...	9
142		224	294	1	2	...	...	136	122	297	326	1	2	...	...	10
251		520	408	1	...	1	...	350	210	441	356	...	1	...	...	11
703		615	491	29	28	...	...	1,021	1,052	793	547	32	22	...	...	12
303		465	469	16	14	30	18	408	391	535	415	18	15	34	21	13
203		188	194	15	14	...	...	427	544	394	399	34	29	...	...	14
324		168	243	25	20	...	..	1,165	936	447	483	115	104	...	...	15
203		102	63	32	23	5	2	465	441	146	128	48	23	6	7	16
79		67	73	38	39	4	5	333	321	182	132	45	34	10	6	17
202		40	38	...	...	...	...	493	466	59	102	1	3	...	...	18
191		34	29	2	3	...	1	466	486	62	79	10	8	1	...	19
120		9	24	...	...	..	...	316	354	44	44	...	1	...	...	20
230		29	25	...	1	...	...	244	203	38	39	...	...	...	...	21
197		25	17	...	...	..	...	422	435	32	49	...	...	...	...	23
422		34	34	...	...	...	...	467	383	31	32	...	...	...	...	23
125		100	48	8	5	1	2	217	213	191	190	14	12	1	3	24
584		367	319	52	45	12	10	606	515	333	282	47	40	12	10	25
312		191	156	...	...	..	..	449	365	89	84	...	...	...	...	26
317		19	18	1	1	4	1	661	832	56	55	...	2	...	...	27
300		43	28	1	...	...	...	569	587	53	57	...	...	...	...	28
100		13	24	...	...	...	3	294	335	37	65	1	...	...	2	29
6,623		6,909	6,719	225	192	57	42	11,780	11,186	9,833	9,880	373	301	64	49	
405,557		436,767	317,417	16,312	11,736	182	133	943,910	833,320	812,778	645,951	33,066	23,019	374	357	
16·33		15·82	21·17	13·79	16·36	313·19	315·79	12·48	13·42	12·10	14·52	11·28	13·08	171·12	137·25	

ANNUAL FOR

DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED AG

1	2	10								11			
		THIRTY YEARS AND UNDER FORTY YEARS.								FORTY YEARS AND UNDE			
Number.	Districts.	*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Muhammadans.*		*Hindus.*	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	85	86	87	88	89	90	91	92	93	94	95	96
1	Hissar ...	211	111	622	882	...	...	...	...	199	102	737	6
2	Rohtak ...	136	133	653	568	1	2	...	...	148	124	671	5
3	Gurgaon ...	677	485	777	669	1	...	...	...	213	271	801	6
4	Karnal ...	200	221	962	749	...	...	...	...	358	413	937	6
5	Ambala ..	305	285	553	512	...	...	...	...	328	251	618	4
6	Simla ...	8	6	44	32	2	2	...	...	6	3	31	
7	Kangra ...	35	18	1,041	933	...	...	...	...	63	45	1,098	9
8	Hoshiarpur ...	241	250	512	601	4	1	...	...	275	186	564	4
9	Jullundur ..	213	195	247	252	...	...	...	...	261	165	300	2
10	Ludhiana ...	264	203	343	392	...	2	...	...	576	337	698	7
11	Ferozepore ..	323	273	427	317	...	...	...	...	502	582	747	4
12	Lahore ...	1,097	831	881	773	51	41	...	.	1,202	955	797	6
13	Amritsar ...	430	422	516	368	15	13	33	27	432	418	599	4
14	Gurdaspur ...	466	452	491	375	31	23	...	..	482	285	499	3
15	Sialkot ...	813	786	572	440	118	86	...	...	730	629	507	4
16	Gujranwala ...	456	389	130	111	50	34	5	6	522	360	130	
17	Sheikhupura ..	241	225	173	119	48	33	9	8	356	206	115	1
18	Gujrat ...	519	401	54	64	1	...	...	1	546	439	71	
19	Shahpur ...	466	404	47	51	12	10	1	...	398	331	66	
20	Jhelum ...	354	396	27	28	...	...	...	...	362	323	24	
21	Rawalpindi ...	254	234	57	59	...	...	...	...	278	255	57	
22	Attock ...	490	471	30	26	...	...	...	...	457	397	28	
23	Mianwali ...	440	366	32	39	...	...	...	...	399	375	30	
24	Montgomery ...	254	231	117	176	5	4	2	3	323	148	155	13
25	Lyallpur ...	519	429	284	234	40	33	10	8	413	387	226	18
26	Jhang	400	325	97	81	...	...	...	...	416	315	91	1
27	Multan ...	605	589	129	207	6	4	2	3	594	464	127	1
28	Muzaffargarh ...	617	570	61	44	...	...	1	...	548	445	38	
29	Dera Ghazi Khan ...	334	382	40	53	..	...	1	1	374	259	41	
	Total ...	11,368	10,083	9,919	9,155	385	288	64	57	11,751	9,460	10,803	8,5
	Population according to Census of 1921.	794,114	663,352	643,616	511,223	22,481	17,177	361	265	568,025	436,332	474,779	386,0
	Ratio per 1,000 living for the Province.	14·31	15·13	15·41	17·91	17·13	16·77	177·29	215·09	20·69	19·45	22·75	22·

). IV—CONTINUED.

RIOD IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

				12								13				
FTY YEARS.				FIFTY YEARS AND UNDER SIXTY YEARS.								SIXTY YEARS AND UPWARDS.				
n Christians.		Other Classes.		Muhammadans.		Hindus.		Indian Christians.		Other Classes.		Muhammadans.		Hindus.		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Number.
98	99	100		101	102	103	104	105	106	107	108	109	110	111	112	1
...	...	..		220	112	714	587	...	...	..	...	256	169	1,604	1,343	1
1	...	...		131	115	706	523	1	1	...	...	127	108	1,165	890	2
...	...	...		175	153	450	303	...	...	...	...	70	77	101	87	3
1	...	...		205	222	847	532	...	...	...	...	410	321	1,091	870	4
1	..	...		317	243	557	353	...	1	...	...	407	379	1,930	1,445	5
1	...	...		8	2	25	14	...	1	...	...	8	3	52	45	6
2	...	...		69	48	1,272	1,069	...	...	1	...	90	44	1 373	1,248	7
...	...	...		273	188	698	470	...	...	...	...	831	632	2.259	1,662	8
...	...	...		267	176	370	298	..	1	...	...	995	796	1,393	1,149	9
2	1	...		624	395	747	712	1	2	...	...	368	290	531	396	10
...	1	...		804	691	921	856	...	...	...	...	1,128	893	1,358	1 375	11
31	23	...		975	864	712	403	32	21	..	...	635	560	481	412	12
28	24	47	33	515	502	632	538	22	20	30	29	1,028	889	1,242	864	13
26	10	...		457	298	455	285	25	24	...	...	1,182	786	1,243	835	14
70	49	...		675	593	314	253	36	25	...	...	422	333	326	283	15
28	22	8	4	477	353	117	61	30	27	7	3	1,058	796	274	241	16
35	37	8	7	226	138	194	125	39	36	7	8	841	671	267	159	17
2	1	2	1	563	432	59	55	1	...	...	...	1,701	1,257	235	161	18
2	1	...	1	514	339	56	39	3	2	1	...	1,344	893	123	102	19
1	...	...	...	435	336	35	29	...	...	...	...	1,182	868	140	116	20
..	...	...	...	396	417	78	76	...	1	..	...	1,156	1 068	119	118	21
..	...	...	...	526	377	24	26	...	...	...	...	1,169	869	67	73	22
..	...	...	..	340	376	39	25	...	...	...	...	578	525	44	40	23
8	10	1	2	350	209	111	142	9	7	1	3	1,048	779	375	276	24
32	26	8	6	315	248	173	136	25	19	6	5	250	199	140	112	25
..	...	...	...	354	272	182	123	...	...	...	...	593	483	215	136	26
9	7	3	...	612	327	116	112	8	5	2	1	1,653	1,179	168	150	27
..	...	...	...	453	292	78	59	...	...	...	...	722	497	141	48	28
...	...	...	...	277	194	38	14	...	..	...	1	614	369	111	57	29
280	204	77	54	11,556	8,912	10,730	8,208	232	193	55	50	21,876	16,733	18,568	14,693	
,039	12,104	264	261	397,365	320,365	339,811	261 590	9,704	7,704	160	156	437,197	321, 889	384,937	253,883	
8·58	16·85	291·67	206·90	29·08	27·82	31·58	31·38	23·91	25·05	343·75	320·51	50·04	51·98	55·44	57·99	

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DEATHS REGISTERED BY SEXES AND CLASSES ACCORDING TO SPECIFIED AG

1	2	13—*concluded.*				14					
		SIXTY YEARS AND UPWARDS—CONCLUDED.				TOTAL.					
Number.	Districts.	*Indian Christians.*		*Other Classes.*		*Muhammadans.*		*Hindus.*		*Indian Christians.*	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	2	113	114	115	116	117	118	119	120	121	12
1	Hissar ..	...	...	...	...	3,819	3,295	8,903	7,686	2	...
2	Rohtak ...	2	...	...	...	1,977	1,634	10,325	8,486	13	
3	Gurgaon ...	...	...	...	...	4,504	3,677	8,037	7,257	2	...
4	Karnal ...	..	...	1	...	3,576	3,060	10,114	8,145	2	
5	Ambala ...	3	...	...	...	3,143	2,835	8,353	6,944	5	
6	Simla ...	1	...	...	...	83	76	355	277	12	
7	Kangra	6	1	...	...	684	468	11,252	10,445	19	
8	Hoshiarpur ...	..	4	...	...	4,510	4,023	10,929	9,879	21	
9	Jullundur ...	...	...	...	...	5,226	4,678	6,249	5,948	...	
10	Ludhiana ...	...	1	...	...	3,366	2,743	5,013	4,790	10	
11	Ferozepore ...	...	...	...	...	7,446	6,275	8,310	6,706	24	
12	Lahore ...	41	31	...	...	9,427	8,678	8,146	6,542	378	
13	Amritsar ...	26	18	51	45	7,135	6,788	8,875	6,647	165	
14	Gurdaspur ...	91	79	...	...	7,294	6,406	7,138	5,908	565	
15	Sialkot ...	33	30	...	...	8,072	6,864	4,082	3,682	787	
16	Gujranwala ...	99	44	12	8	6,849	5,911	1,910	1,568	699	
17	Sheikhupura ...	68	42	16	11	5,411	4,656	2,421	1,601	547	
18	Gujrat ...	4	2	3	2	8,592	7,195	1,226	1,002	24	
19	Shahpur ...	23	29	1	...	8,167	6,729	1,094	989	137	
20	Jhelum ...	1	...	...	...	5,324	4,684	521	511	3	
21	Rawalpindi ..	...	3	...	...	5,718	5,157	764	750	13	
22	Attock ...	...	...	1	...	6,211	5,372	467	405	...	...
23	Mianwali ...	...	...	...	...	4,932	4,368	359	345	...	...
24	Montgomery ...	25	19	5	3	6,160	5,022	2,277	2,130	141	1
25	Lyallpur ...	25	16	6	4	7,640	6,587	4,184	3,603	599	5
26	Jhang ...	...	...	...	...	5,763	4,902	1,680	1,219	...	...
27	Multan ...	9	7	2	...	9,587	8,008	1,914	1,953	66	
28	Muzaffargarh ...	...	...	...	...	6,491	5,431	939	631	1	...
29	Dera Ghazi Khan ...	...	...	...	...	4,847	3,880	716	568	1	...
	Total ..	457	326	98	73	161,904	139,402	136,553	116,617	4,227	3,2
	Population according to Census of 1921.	11,268	7,482	147	146	...	...	...	...	...	...
	Ratio per 1,000 living for the Province.	40·56	43·57	666·67	500·00	...	...	...	...	...	...

IV—CONCLUDED.

ODS IN THE DISTRICTS OF THE PUNJAB DURING THE YEAR 1927.

		15										
		RATIO OF DEATHS PER 1,000 OF POPULATION.										
ier Classes.		*Muhammadans.*		*Hindus.*		*Indian Christians.*		*Other Classes.*		*Total.*		
Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Number.
123	124	125	126	127	128	129	130	131	132	133	134	1
	...	33·83	31·97	27·64	27·68	4·12	...	...	...	29·21	28·80	1
	...	30·19	27·44	29·78	29·21	2·51	1·88	...	...	29·51	28·54	2
	...	38·85	36·43	32·00	34·13	3·28	...	...	...	34·10	34·80	3
1	...	28·18	28·15	31·13	30·76	1·12	0·64	71·43	...	30·18	29·88	4
	...	29·62	32·60	33·12	36·12	3·05	0·70	...	...	31·86	34·81	5
	...	18·00	61·09	16·52	27·14	24·64	30·40	...	...	16·30	27·22	6
1	...	32·53	27·19	30·38	29·61	70·42	7·04	0·64	...	30·39	29·37	7
	...	29·07	29·99	32·01	33·72	10·60	9·66	...	...	31·00	32·46	8
	...	26·53	28·19	24·91	30·34	...	0·69	...	...	25·50	29·24	9
	...	31·53	31·82	23·73	29·60	11·72	17·83	..	...	26·31	30·33	10
6	3	28·70	29·05	24·72	25·52	11·80	12·45	5·70	16·85	26·36	27·06	11
	...	26·40	30·44	32·12	37 40	16·83	15·21	...	...	28·20	32·30	12
319	284	30·66	35·60	31·83	31·15	25·04	24·13	943·24	?	31·87	33·80	13
	...	31·53	33·58	32 71	33·82	31·55	32·25	...	...	32·07	33·63	14
	...	27·95	27·87	26·60	29·28	27·45	26·13	..	...	27·40	25·20	15
94	62	27·81	30·02	21·89	23·80	46·17	31·37	?	984·13	27·39	28·81	16
102	84	24·13	25·71	21·99	19·40	32 83	31·37	395·35	471·91	24·14	24·39	17
9	7	22·73	21·69	20·66	19·03	19·32	20·08	257·14	140·00	22·46	21·34	18
8	7	25·23	24·71	17·62	19·60	22·06	22·30	160·00	194·44	23·99	23·90	19
	..	25·01	22·36	19·00	20·02	15·08	24·00	..	...	24·32	22·11	20
	...	23·72	23·90	16·78	24·17	7·83	10·78	...	...	22·22	23·82	21
3	2	25·99	23·93	20·54	18·92	...	...	15·87	74·07	25·50	23·49	22
	...	30·34	29·86	13·22	15·82	...	...	...	...	27·84	28·02	23
30	29	21·92	21·65	21·37	25·43	24·58	30·00	697·67	?	21·83	22·84	24
136	111	24·73	25·92	21·91	25·64	26·24	27·42	?	?	24·03	26·16	25
	...	22·46	22·40	34·54	26·45	...	...	...	...	24·36	23·09	26
30	13	24·04	24·11	22 68	29·92	28·19	23·01	25·40	95·59	23·83	25·08	27
1	...	24·19	24·14	23·50	18·13	13·89	...	4·80	...	24·08	23·33	28
14	17	21·37	21·01	23·41	21·05	52·63	...	?	?	21·67	21·09	29
784	619	26·34	26·72	28·01	29·51	25·58	23·78	*46·68	*91·88	27·08	27·91	
	...	...	...	...	...	...	...	...	..	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...

*Figures incorrect due to misclassification.

NOTE.—The population of Military Cantonment by different ages cannot be excluded as it is not shown separately in the census returns.

ANNUAL FORM No. V.

CANCELLED AND INCORPORATED IN ANNUAL FORM No IV.

ANNUAL FORM No. VI.

DEATHS REGISTERED FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE DISTRICTS (RURAL CIRCLES), OF THE PUNJAB DURING THE YEAR 1927.

ANNUAL FORM

DEATHS REGISTERED FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE

1	2	3	4				5	6	7	8	9	10	11	
Number.	Rural Circles.	Population according to Census of 1921.	Births.			Birth rate per 1,000 of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries. Suicide	
			Males.	Females.	Total.								Males.	Females.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	AMBALA DIVISION.													
1	Hissar ...	728,146	16,648	15,199	31,847	43·74	463	283	328	14,478	134	1,123	9	17
2	Rohtak ...	696,915	14,527	13,272	27,799	39·89	195	53	683	14,401	191	1,536	6	3
3	Gurgaon ..	631,068	14,661	12,848	27,509	43·59	75	12	369	14,051	219	1,645	5	30
4	Karnal ...	747,503	15,178	13,785	28,963	38·75	183	256	324	16,244	59	1,994	5	8
5	Ambala ...	578,983	11,468	10,329	21,797	37·65	164	236	501	8,178	163	7,192	...	...
6	Simla ...	14,788	194	166	360	24·34	...	2	...	71	14	...	...	...
	JULLUNDUR DIVISION.													
7	Kangra ...	754,151	13,230	12,310	25,540	33·87	5	170	...	9,391	3,028	4,515	3	1
8	Hoshiarpur ..	865,376	18,755	16,738	35,493	41·01	164	1,023	279	20,122	8	2,111	4	2
9	Jullundur ...	708,601	16,764	15,487	32,251	45·51	188	99	12	13,828	104	1,274	7	2
10	Ludhiana ...	4,967	11,444	10,688	22,132	45·70	365	120	158	7,937	113	1,073	1	2
11	Ferozepore ...	985,993	21,587	18,906	40,493	41·07	3,118	117	938	14,312	191	1,565	13	7
	LAHORE DIVISION.													
12	Lahore ...	772,412	15,496	13,820	29,316	37·95	3,429	536	212	1,775	446	1,722	1	...
13	Amritsar ...	743,123	18,644	17,233	35,877	48·28	543	246	571	15,95	198	1,827	10	5
14	Gurdaspur ...	795,536	19,016	17,664	36,680	46·10	31	224	740	14,113	594	3,369	1	4
15	Sialkot ...	755,553	17,673	15,946	33,619	44·50	15	349	830	13,964	214	2,695	4	1
16	Gujranwala ...	531,961	12,501	11,412	23,913	44·95	1	352	437	11,187	74	857	3	...
17	Sheikhupura ...	591,010	13,361	11,601	24,962	42·24	133	663	631	10,658	57	324	2	2
	RAWALPINDI DIVISION.													
18	Gujrat ...	778,026	15,930	14,027	29,957	38·50	13	420	153	11,682	111	1,755	...	1
19	Shahpur ...	655,536	13,957	12,755	26,712	40·75	1	293	189	10,751	123	828	3	...
20	Jhelum ...	443,802	8,968	7,939	6,907	38·10	1	93	77	7,105	92	939	4	2
21	Rawalpindi ...	483,045	9,987	8,867	18,854	39·03	14	61	...	7,105	1,463	1,207	1	...
22	Attock ...	486,533	9,526	8,293	17,819	36·62	1	159	1	9,497	18	692	5	1
23	Mianwali ...	328,270	8,371	7,499	15,870	48·34	...	41	...	7,562	32	282	1	2
	MULTAN DIVISION.													
24	Montgomery ...	675,176	16,8 5	14,531	31,336	46·36	449	877	33	10,842	48	368	15	2
25	Lyallpur ...	891,935	24,892	22,988	47,880	55·50	250	858	47	16,333	180	895	6	3
26	Jhang ...	518,862	12,259	10,782	23,041	44·41	1	45	...	8,042	486	846	3	...
27	Multan ..	779,519	19,674	16,684	36,358	46·64	9	208	13	14,766	32	412	3	2
28	Muzaffargarh ..	539,192	11,064	9,080	20,144	37·36	42	184	4	11,529	33	136	1	2
29	Dera Ghazi Khan	428,061	7,908	6,659	14,567	34·03	3	518	...	7,467	46	151	4	3
	Total ...	18,397,109	410,428	367,508	777,996	42·29	9,856	8,501	7,530	333,236	8,451	43,323	120	101

No. VI-A (RURAL CIRCLES),

DISTRICTS (RURAL CIRCLES) OF HE PUNJAB DURING THE YEAR 1927.

				12	13	14											15
RIES.						RATIO OF DEATHS PER 1,000 OF POPULATION.											
Wounds and accidents.	Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	*From all causes.* For the year.	*From all causes.* Mean of previous five years.	Number.
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
139	36	9	210	3,365	20,384	0·64	0·39	0 45	19·88	0·18	1·54	0·29	4·62	27·99	32·37	1
202	29	2	233	2,794	20,086	0·28	0·08	0·98	20·66	0·27	2·20	0 33	4 01	28·82	47·23	2
128	1	...	164	5 330	21,865	0·12	0·02	0·58	22·27	0·35	2·61	0·26	8·45	34·65	36·87	3
192	32	...	237	3,295	22,592	0·24	0·34	0·43	21·73	0·08	2 67	0·32	4·41	30·22	47·33	4
...	...	...	...	2,972	19,406	0·28	0 41	0 87	14·13	0·28	12·42	...	5·13	33·52	34·99	5
1	...	...	1	222	310	...	0·14	...	4·80	0·95	..	0·07	15·01	23·96	20·49	6
514	30	7	555	4,936	22,600	0·01	0·23	...	12·45	4·02	5·99	0·74	6·55	29·97	29·41	7
160	13	7	186	3,644	27,537	0·19	1·18	0·32	23·25	0·01	2·44	0·21	4·21	31·82	29 51	8
156	3	...	168	3,393	19,065	0·27	0 14	0·02	19·51	0·15	1·80	0·24	4·79	26·91	28·31	9
113	7	2	125	3,749	13,640	0·75	0 25	0·33	16·39	0·23	2·22	0·26	7·74	28·17	31 59	10
204	21	4	249	5,864	26,354	3·16	0·12	0·95	14·52	0·19	1·59	0·25	5·95	26·73	29·45	11
196	24	6	227	3,963	22,310	4·44	0·69	0·27	15·24	0·58	2·23	0·29	5·13	28·88	31·51	12
150	22	7	194	4,091	23,615	0·73	0·33	0·77	21·46	0·27	2·46	0 26	5·51	31·78	36·15	13
152	15	1	173	6,581	25,825	0·04	0·28	0·93	17·74	0·75	4·23	0·22	8·27	32·46	34·00	14
144	15	2	166	3,042	21,175	0·02	0·46	1·10	18·35	0·28	3·57	0·22	4·03	28·03	41·32	15
141	66	8	218	1,903	15,029	0·002	0·66	0·82	21·03	0·14	1·61	0·41	3·58	28·25	39·12	16
99	62	4	169	2,158	14,793	0·23	1·12	1·07	18·03	0·10	0·55	0·29	3·65	25·03	29·74	17
167	10	4	182	2,486	16,802	0·02	0·54	0·20	15·01	0·14	2·26	0·23	3·20	21·60	39·84	18
256	29	3	291	3,257	15,733	0·001	0·45	0·29	16·40	0·19	1·26	0·44	4·97	24·00	25·00	19
160	40	...	206	1,823	10,336	0·002	0·21	0·17	16·01	0·21	2·12	0·46	4·11	23·29	30·78	20
169	34	1	205	831	10,889	0·03	0·13	..	14·71	3·03	2·50	0·42	1·72	22·54	28·48	21
151	24	...	181	1,456	12,005	0·002	0·33	0·002	19·52	0·04	1·42	0·37	2·99	24·67	26·45	22
91	10	...	104	1,292	9,313	...	0·12	...	23·01	0·10	0·86	0·32	3·94	28·37	27·53	23
248	50	4	319	2,052	14,988	0·66	1·30	0·05	16·04	0·07	0·54	0·47	3·04	22·17	25·93	24
233	7	8	256	4,028	22,837	0·28	0·96	0·05	18·25	0·20	0·99	0·29	4·50	25·52	26·86	25
206	47	2	258	2,522	12,180	0·001	0·09	...	15·50	0·90	1·63	0·50	4·86	23·47	26·67	26
274	78	1	358	2,377	18,175	0·01	0·27	0·02	18·94	0·04	0·53	0·46	3·05	23·32	25·63	27
124	62	...	189	644	12,761	0·08	0·34	0·01	21·38	0·06	0·25	0·35	1·19	23·67	28·57	28
104	33	1	145	525	8,855	0·01	1·21	...	17·44	0·11	0·35	0·34	1·23	20·69	26·93	29
,874	791	83	5,969	84,595	501 461	0·54	0·46	0·41	18·11	0·46	2·35	0 32	4·60	27·26	32·46	

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE TOW

1	2	3	4				5	6	7	8	9	10	
Number.	Towns.	Population according to Census of 1921.	Births.				Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Sui
			Males.	Females.	Total.	Birth rate per 1,000 of population.							Males.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	HISSAR DISTRICT.												
1	Hissar	21,415	421	331	752	35·12	4	22	1	249	35	183	...
2	Hansi	15,425	338	271	609	39·48	...	...	65	304	19	169	...
3	Bhiwani	33,270	721	683	1,404	42·20	3	1	1	415	51	279	...
4	Sirsa	16,241	216	203	419	25·80	8	13	39	135	31	99	...
5	Fatehabad	2,313	35	32	67	28·97	10	1	...	36	3	24	...
	ROHTAK DISTRICT.												
6	Rohtak	25,240	575	532	1,107	43·86	19	1	2	272	35	153	..
7	Jhajjar	10,800	256	214	470	43·52	2	...	...	76	19	55	...
8	Beri	7,454	203	186	389	52·19	...	...	...	109	7	26	...
9	Gohana	5,107	121	98	219	42·88	...	6	4	110	11	34	...
10	Bahadurgarh	5,955	107	105	212	35·60	2	...	18	175	5	19	...
11	Sonepat	12,981	305	289	594	45·76	2	...	...	203	11	67	...
12	Mehm	7,820	205	143	348	44·50	...	...	...	150	8	45	...
	GURGAON DISTRICT.												
13	Rewari	23,129	528	495	1,023	44·23	5	4	...	141	28	157	...
14	Palwal	9,352	244	227	471	50·36	1	1	...	210	9	48	...
15	Firozpur	4,542	107	105	212	46·68	11	...	...	115	16	25	...
16	Hodal	5,854	132	151	283	48·34	...	...	...	73	3	9	..
17	Ballabgarh	3,721	77	85	162	43·54	...	1	...	67	6	16	...
18	Faridabad	4,337	86	89	175	40·35	...	...	...	90	10	15	...
	KARNAL DISTRICT.												
19	Karnal	22,845	457	388	845	36·99	1	44	...	298	32	96	...
20	Kaithal	15,477	319	292	611	39·48	1	8	...	215	3	66	...
21	Panipat	27,343	675	558	1,233	45·09	9	6	1	417	16	120	...
22	Shahabad	11,329	220	182	402	35·48	...	...	4	105	11	40	...
23	Thanesar	4,226	54	48	102	24·14	1	...	...	43	2	17	...
	AMBALA DISTRICT.												
24	Ambala	28,581	563	475	1,038	36·32	...	1	3	189	43	180	...
25	Jagadhri	11,544	250	217	467	40·45	3	2	32	252	23	126	...
26	Burya	3 574	62	56	118	33·02	...	1	...	40	5	20	...
27	Sadhaura	7,630	151	153	304	39·84	1	4	...	32	23	107	...
28	Rupar	7,606	195	153	348	45·75	...	5	...	72	25	58	...
29	Kharar	4,091	95	95	190	46·44	...	...	1	52	4	35	...
	SIMLA DISTRICT.												
30	Simla	26,149	342	350	692	26·46	1	5	...	4	20	...	1
	KANGRA DISTRICT.												
31	Kangra	3,581	74	61	135	37·70	...	...	...	41	13	26	...
32	Dharmsala	3,065	39	42	81	26·43	2	1	...	39	2	27	...
33	Palampur	529	10	7	17	32·14	...	...	...	13	3	5	...
34	Nurpur	3,421	26	31	57	16·66	3	...	...	35	...	21	...
	HOSHIARPUR DISTRICT.												
35	Hoshiarpur	21,285	463	418	881	41·39	18	13	...	274	4	117	...
36	Khanpur	2,701	55	44	99	36·65	3	11	..	45	...	10	...
37	Hariana	5,205	113	72	185	35·54	1	2	...	109	...	17	...
38	Garhdiwala	5,196	56	54	110	21·17	5	...	.	42	...	16	...
39	Dasuya	3,889	123	114	237	60·94	2	1	5	91	...	27	...
40	Tanda Urmar	8,362	200	148	348	41·62	...	...	...	197	1	54	...
41	Miani	4,934	84	78	162	32·83	1	...	...	90	1	15	...
42	Mukerian	2,346	65	64	129	54 99	...	4	7	45	...	38	..
43	Una	4,603	60	55	115	24·98	.	48	...	58	...	13	...
44	Anandpur	3,522	44	41	85	24·13	...	4	...	62	...	10	...
	JULLUNDUR DISTRICT.												
45	Jullundur	59,085	1,586	1,468	3,054	51·69	22	17	20	654	148	442	...
46	Kartarpur	8,512	199	199	398	46·76	...	...	...	174	16	60	...
47	Bungah	5,089	104	113	217	42·64	...	8	...	62	5	8	1
48	Rahon	5,947	129	106	235	39·52	...	...	...	119	7	29	...
49	Phillaur	4,696	110	93	203	43·23	9	1	...	66	4	37	...
50	Nurmahal	6,845	167	155	322	47·04	1	1	...	63	6	58	...
51	Nakodar	9,434	208	222	430	45·58	4	5	3	91	12	43	...
52	Nawanshahr	5,316	92	92	184	34·61	1	...	1	95	10	13	...

VI-B. (TOWNS).

HE PUNJAB DURING THE YEAR 1927.

11			12	13	14										15
					Ratio of deaths per 1,000 of population.								From all causes.		
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.	Number.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
...	...	4	241	739	0·19	1·03	0·05	11·63	1·63	8·55	0·19	11·25	34·51	40·30	1
...	...	5	210	772	...	...	4·21	19·71	1·23	10·96	0·32	13·61	50·05	45·89	2
...	...	15	528	1,293	0·09	0·03	0·03	12·47	1·53	8·39	0·45	15·87	38·86	43·76	3
...	...	1	101	427	0·49	0·80	2·40	8·31	1·91	6·10	0·06	6·22	26·29	39·84	4
...	...	1	15	90	4·32	0·43	...	15·56	1·30	10·38	0·43	6·49	38·91	46·78	5
...	1	11	253	746	0·75	0·04	0·08	10·78	1·39	6·06	0·44	10·02	29·56	35·13	6
...	1	1	108	261	0·19	...	...	7·04	1·76	5·09	0·39	10·00	24·17	51·26	7
2	...	3	104	249	...	...	...	14·62	0·94	3·49	0·40	13·95	33·40	44·83	8
...	...	1	38	204	...	1·17	0·78	21·54	2·15	5·16	0·20	7·44	39·95	63·52	9
...	...	2	29	250	0·34	...	3·02	29·39	0·84	3·19	0·34	4·87	41·98	43·86	10
1	...	1	96	380	0·15	...	...	15·64	0·85	5·16	0·08	7·40	29·27	53·22	11
...	...	1	64	268	...	...	...	19·18	1·02	5·75	0·13	8·18	34·27	36·04	12
...	...	...	221	556	0·22	0·17	...	6·10	1·21	6·79	...	9·56	24·04	34·84	13
...	...	...	115	384	0·11	0·11	...	22·46	0·96	5·13	...	12 30	41·06	46·36	14
...	...	...	53	220	2·42	...	...	25·32	3·52	5·50	...	11·67	48·44	39·54	15
...	...	...	86	171	...	...	...	12·47	0·51	1·54	...	14·69	29 21	46·46	16
...	...	...	52	142	...	0·27	...	18·01	1·61	4·30	...	13·97	38·16	43·16	17
...	...	...	24	139	...	...	...	20·75	2 31	3·46	...	5·53	32·05	28·22	18
...	...	2	192	665	0·34	1·93	...	13·04	1·40	4·20	0·09	8·40	29·11	48·66	19
...	...	...	158	451	0·06	0·52	...	13·89	0·19	4·26	...	10·21	29·14	55·42	20
...	...	...	286	855	0·33	0·22	0·04	15·25	0 59	4·39	...	10·46	31·27	51·94	21
...	...	...	78	238	...	...	0·35	9·27	0·97	3·53	...	6·88	21·01	33·86	22
...	...	...	35	98	0·24	...	...	10·18	0·47	4·02	...	8·28	23·19	31·71	23
...	...	...	205	621	...	0·04	0·10	6·61	1·50	6·30	...	7·17	21·73	29·59	24
...	...	...	117	555	0·26	0·17	2·77	21·83	1·99	10·91	...	10·14	48·08	45·56	25
...	...	...	39	105	...	0·28	...	11·19	1·40	5·60	...	10·91	29·38	34·53	26
...	...	...	62	229	0·13	0·52	...	4·19	3·01	14·02	...	8·13	30 01	38·40	27
...	...	...	68	228	...	0·66	...	9·47	3·29	7·63	...	8·94	29·98	33·92	28
...	...	...	45	137	...	...	0·24	12·71	0·98	8·56	...	11·00	33 49	Not available.	29
...	...	3	470	503	0·04	0·19	...	0·15	0 76	...	0·11	17·97	19·24	18·39	30
...	...	...	14	94	...	...	...	11·45	3·63	7·26	...	3·91	26·25	22·90	31
...	1	1	1	73	0·65	0·33	...	12 72	0·65	8·81	0·33	0·33	23 82	20·55	32
...	...	1	2	24	...	...	...	24·57	5·67	9·45	1·89	3·78	45·37	27·22	33
...	...	6	5	70	0·88	...	...	10·23	...	6·14	1·75	1·46	20·46	Not available.	34
...	...	7	148	581	0·83	0·61	...	12·87	0·19	5·50	0·33	6·95	27·30	25·35	35
...	...	2	27	98	1·11	4·07	...	16·66	...	3·70	0·74	10·00	36·28	32·28	36
...	...	1	12	142	0·19	0·38	...	20·94	...	3·27	0·19	2·31	27·23	23·21	37
...	...	1	29	93	0·96	...	...	8·08	...	3·08	0·19	5·58	17·90	15·13	38
...	...	3	31	160	0·51	0·26	1·29	23·40	...	6·94	0·77	7·97	41·14	50·09	39
...	...	1	21	274	...	...	...	23·56	0·12	6·46	0·12	2·51	32·77	32·05	40
...	...	1	15	123	0·20	...	...	18·24	0·20	3·04	0·20	3·04	24·93	31·46	41
...	1	6	25	125	...	1·71	2·98	19·18	...	16·20	2·56	10·66	53·28	48·80	42
1	1	1	29	149	...	10·43	...	12·60	...	2·82	0·22	6·30	32·37	24·90	43
...	...	3	17	96	...	1·14	...	17·60	...	2·84	0·85	4 83	27·26	25·10	44
1	...	47	411	1,761	0·37	0·29	0·34	11·07	2·50	7·48	0·80	6·96	29·80	30·26	45
...	...	3	43	296	...	...	...	20·44	1·88	7·05	0·35	5·05	34·77	35·50	46
...	...	5	23	111	...	1·57	...	12·18	0·98	1·57	0·98	4·52	21·81	21·85	47
...	...	1	26	182	...	...	...	20·01	1·18	4·88	0·17	4·37	30·60	29·39	48
...	...	1	33	151	1·92	0·21	...	14·05	0·85	7·88	0·21	7·03	32·16	36·80	49
...	...	3	25	157	0·15	0·15	...	9·20	0·88	8·47	0·44	3 95	22·94	29·48	50
...	...	2	77	237	0·42	0·53	0 32	9·65	1·27	4·56	0·21	8·16	25·12	26·63	51
...	...	...	21	141	0·19	...	0·19	17·87	1·88	2·45	...	3·95	26·52	Not available.	52

ANNUAL FOR

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE TOWN

1	2	3	4				5	6	7	8	9	10
Number.	Towns.	Population according to Census of 1921.	Births.				Cholera.	Smallpox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.
			Males.	Females.	Total.	Birth rate per 1,000 of population.						
1	2	3	4	5	6	7	8	9	10	11	12	13
	LUDHIANA DISTRICT.											
53	Ludhiana	51,880	1,234	1,099	2,333	44·97	11	7	1	507	123	494
54	Jagraon	17,731	422	435	857	48·33	14	1	5	142	28	121
55	Raekot	8,379	210	156	366	43·68	11	1	9	105	8	31
56	Khanna ...	5,365	92	74	166	30·94	..	...	...	50	9	21
	FEROZEPORE DISTRICT.											
57	Ferozepore	29,695	594	489	1,083	36·47	30	7	...	234	55	172
58	Zira	4,622	133	100	233	50·41	51	1	...	62	1	13
59	Dharmkot	5,960	151	135	286	47·99	13	..	3	53	6	29
60	Muktsar	10,539	227	201	428	40·61	5	2	...	77	5	61
61	Fazilka	13,829	284	272	556	40·21	7	1	45	253	11	96
62	Moga	14,145	262	231	493	34·85	170	4	7	144	5	52
63	Abohar	8,916	104	91	195	21·87	...	10	51	40	6	40
64	Gidarbaha	5,178	25	23	48	9·27	...	...	...	15	1	...
65	Guru Harsahai	430	21	17	38	88·37	2	8	...	28	...	4
	LAHORE DISTRICT.											
66	Lahore	257,295	5,226	4,651	9,877	38·39	128	329	2	2,034	524	2,320
67	Chunnian	7,642	170	167	337	44·10	18	5	...	73	6	20
68	Khudian ..	3,344	95	76	171	51·14	5	...	...	81	5	14
69	Kasur	31,018	766	714	1,480	47·71	363	11	15	467	36	92
70	Khem Karan	6,752	165	173	338	54·94	59	...	1	102	3	17
71	Patti	10,439	241	252	493	47·23	3	..	53	200	6	31
72	Baghbanpura-Bhogiwal ...	10,251	239	240	479	46·73	2	5	...	194	1	33
73	Ichhra	3,584	49	43	92	25·67	9	1	..	26	...	5
74	Pattoki Mandi ...	3,836	77	63	140	36·50	50	3	...	26	...	2
75	Kot Rai Buta Mal and Azamabad.	3,191	101	78	179	56·10	4	...	23	49	...	6
76	Niaz Beg	2,960	37	23	60	20·27	...	3	...	8	...	14
77	Padhana	4,606	112	70	182	39·51	...	9	..	100	3	11
	AMRITSAR DISTRICT.											
78	Amritsar	157,031	4,065	3,713	7,778	49·53	90	226	..	2,403	99	2,114
79	Majitha	5,664	128	101	229	40·43	..	...	1	91	15	38
80	Jandiala	7,464	185	174	359	48·10	17	1	...	106	12	29
81	Tarn Taran	5,988	129	103	232	38·74	2	...	...	47	4	20
82	Ram Das	3,553	133	111	244	68·67	...	2	..	122	2	12
83	Sultanwind	5,572	128	101	229	41·10	...	4	...	133	4	20
	GURDASPUR DISTRICT.											
84	Gurdaspur	8,906	187	164	351	39·41	8	2	3	119	9	43
85	Dina Nagar	4,017	122	112	234	57·82	19	...	...	53	7	33
86	Pathankot	7,353	174	161	335	45·56	44	...	38	104	29	64
87	Dalhousie	1,457	10	11	21	14·41	...	...	...	9	...	10
88	Batala	26,122	777	684	1,461	55·93	15	63	5	428	44	126
89	Dera Nanak	4,333	102	108	210	48·47	...	2	1	76	4	7
	SIALKOT DISTRICT.											
90	Sialkot	56,018	1,593	1,469	3,062	54·66	...	17	...	615	80	637
91	Daska	6,283	112	100	212	33·74	2	2	...	87	4	10
92	Jamke	3,621	90	71	161	44·46	...	...	1	54	...	10
93	Pasrur	6,909	133	140	273	39·51	...	2	...	66	15	56
94	Zaffarwal	3,873	69	58	127	32·79	...	1	8	21	11	31
95	Narowal	5,343	159	122	281	52·59	...	6	...	104	7	54
96	Sambrial	3,324	62	63	125	37·61	...	...	...	25	1	15
97	Sahowala	3,410	32	25	57	16·72	...	...	...	16	1	2
98	Begowala	3,697	69	44	113	30·57	..	16	...	28	1	24
99	Bhopalwala	3,767	83	66	149	39·55	...	...	...	51	4	13
100	Mitranwali	3,177	95	80	175	55·08	...	1	..	55	1	6
101	Badomali	2,849	61	49	110	38·61	...	3	...	46	3	7
102	Kalaswala	2,846	67	59	126	44·27	...	5	...	29	4	15
103	Daud ...	3,285	55	58	113	34·40	...	7	...	39	...	3
104	Chawinda	4,979	132	133	265	53·22	...	13	...	42	4	45
	GUJRANWALA DISTRICT.											
105	Gujranwala	37,887	930	788	1,718	45·35	4	136	38	456	44	337
106	Wazirabad	18,645	321	322	643	34·49	...	2	1	167	9	98
107	Eminabad	5,816	107	134	241	41·44	...	4	1	57	3	15
108	Kila Didar Singh ...	2,544	79	61	140	55·03	1	9	...	39	1	13
109	Akalgarh	5,147	118	110	228	44·30	...	1	...	31	6	17
110	Ramnagar	4,632	88	72	160	34·54	...	...	...	79	11	20
111	Sohdra	4,250	109	64	173	40·71	...	12	...	62	6	7
112	Hafizabad	8,854	208	188	396	44·73	...	...	...	78	3	29
113	Pindi Bhattian	3,845	101	70	171	44·47	...	...	..	30	4	15
	SHEIKHUPURA DISTRICT.											
114	Khangah Dogran ..	5,201	31	43	74	14·23	...	5	...	28	...	5
115	Sangla	5,961	54	44	98	16·44	...	7	...	13	2	6
116	Sharakpur	4,127	109	75	184	44·58	1	1	1	54	5	17
117	Shahkot	1,545	26	28	54	34·95	...	2	...	36	2	1
118	Chuharkana Mandi ...	3,847	66	57	123	31·97	...	12	..	23	...	10
119	Nankana Sahib ...	11,733	104	96	200	17·05	7	...	...	47	...	10
120	Shahdara	4,993	78	65	143	28·61	12	5	...	44	...	3

VI-B (TOWNS)—CONTINUED.

THE PUNJAB DURING THE YEAR 1927—CONTINUED.

11			12	13	14										15
					Ratio of deaths per 1,000 of population.								*From all causes.*		
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Smallpox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	For the year.	Mean ratio of previous five years.	Number.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
...	...	15	273	1,431	0·21	0·13	0·02	9·77	2·37	9·52	0·29	5·26	27·58	33·62	53
...	...	7	194	512	0·79	0·06	0·28	8·01	1·58	6·82	0·39	10·94	28·88	34·18	54
...	...	1	85	251	1·31	0·12	1·08	12·53	0·95	3·70	0·12	10·14	29·96	29·76	55
...	...	...	21	101	...	...	...	9·32	1·68	3·91	...	3·91	18·83	23·41	56
..	1	8	148	654	1·01	0·24	...	7·88	1·85	5·79	0·27	4·98	22·02	23·01	57
...	...	..	54	182	11·03	0·22	...	13·41	0·22	2·81	...	11·68	39·38	30·16	58
...	...	2	70	176	2·18	...	0·50	8·89	1·01	4·87	0·31	11·74	29·53	33·83	59
..	..	3	84	237	0·47	0·19	...	7·31	0·47	5·79	0·28	7·97	22·49	29·96	60
..	2	3	48	464	0·50	0·07	3·25	18·29	0·80	6·94	0·22	3·47	33·55	35·59	61
...	...	10	65	457	12·02	0·28	0·50	10·18	0·35	3·68	0·71	4·60	32·31	13·01	62
...	...	6	40	193	...	1·12	5·72	4·49	0·67	4·49	0·67	4·49	21·65	17·47	63
...	...	2	2	20	...	...	...	2·90	0·19	...	0·39	0·39	3·86	6·88	64
...	...	...	10	52	4·65	18·60	...	65·12	...	9·30	...	23·26	120·93	Not available	65
3	3	147	2,659	8,143	0·50	1·28	0·01	7·91	2·04	9·02	0·57	10·33	31·65	33·88	66
...	...	4	83	209	2·36	0·65	...	9·55	0·79	2·62	0·52	10·86	27·35	48·78	67
...	...	2	30	137	1·50	...	...	24·22	1·50	4·19	0·60	8·97	40·97	59·03	68
...	...	7	336	1,327	11·70	0·35	0·48	15·06	1·16	2·97	0·23	10·83	42·78	34·61	69
...	...	4	45	231	9·59	...	0·16	16·58	0·49	2·76	0·65	7·31	37·55	34·75	70
...	...	4	86	383	0·29	..	5·08	19·16	0·57	2·97	0·38	8·24	36·69	35·50	71
...	...	5	64	304	0·20	0·49	...	18·93	0·10	3·22	0·49	6·24	29·66	38·20	72
...	...	.	...	41	2·51	0·28	...	7·25	...	1·40	...	..	11·44	15·90	73
...	...	...	21	102	13·03	0·78	...	6·78	...	0·52	...	5·47	26·59	46·14	74
...	..	...	13	95	1·25	...	7·21	15·36	.	1·88	...	4·07	29·77	Not available.	75
...	...	...	4	29	...	1·01	...	2·70	...	4·73	...	1·35	9·80	Not available.	76
...	..	2	23	148	...	1·95	...	21·71	0·65	2·39	0·43	4·99	32·13	Not available.	77
2	1	96	914	5,942	0·57	1·44	...	15·30	0·63	13·46	0·01	5·82	37·84	40·70	78
...	...	...	37	182	...	...	0·18	16·07	2·65	6·71	...	6·53	32·13	36·86	79
...	...	2	58	225	2·28	0·13	...	14·20	1·61	3·89	0·27	7·77	30·14	29·93	80
...	...	...	19	92	0·33	...	...	7·85	0·67	3·34	...	3·17	15·36	18·87	81
...	...	..	8	146	...	0·56	...	34·34	0·56	3·38	...	2·25	41·09	Not available.	82
...	...	...	16	177	...	0·72	..	23·87	0·72	3·59	...	2·87	31·77	Not available.	83
...	...	2	78	264	0·90	0·22	0·34	13·36	1·01	4·83	0·22	8·76	29·64	30·52	84
...	...	2	70	184	4·69	...	...	13·10	1·73	8·15	0·49	17·30	45·47	46·85	85
...	...	2	144	425	5·98	...	5·17	14·14	3·94	8·70	0·27	19·58	57·80	40·01	86
...	...	1	8	28	...	...	...	6·18	...	6·86	0·69	5·49	19·22	13·45	87
...	..	9	247	937	0·57	2·41	0·19	16·38	1·68	4·82	0·34	9·46	35·87	35·63	88
...	...	1	29	120	...	0·46	0·23	17·54	0·92	1·62	0·23	6·69	27·09	27·42	89
1	1	24	289	1,662	...	0·30	...	10·98	1·43	11·37	0·43	5·16	29·67	39·73	90
...	1	1	12	118	0·32	0·32	...	13·85	0·64	1·59	0·16	1·91	18·78	36·26	91
..	...	1	8	74	...	...	0·28	14·91	...	2·76	0·28	2·21	20·44	42·75	92
...	...	...	18	157	...	0·29	...	9·55	2·17	8·11	...	2·61	22·72	35·26	93
...	1	1	16	89	...	0·26	2·07	5·42	2·84	8·00	0·26	4·13	22·98	33·10	94
...	1	3	35	209	...	1·12	...	19·46	1·31	10·11	0·56	6·55	39·12	31·93	95
...	...	1	5	47	...	...	...	7·52	0·30	4·51	0·30	1·50	14·14	33·63	96
...	...	...	4	23	...	...	...	4·69	0·29	0·59	...	1·17	6·74	30·44	97
...	...	...	21	90	...	4·33	...	7·57	0·27	6·49	...	5·08	24·34	30·08	96
...	...	...	8	76	...	...	...	13·54	1·06	3·45	...	2·12	20·18	34·46	99
...	...	...	17	80	...	0·31	...	17·31	0·31	1·89	...	5·35	25·18	58·67	100
...	...	...	12	71		1·05	...	16·15	1·05	2·46	...	4·21	24·92	35·94	101
...	...	...	9	62	...	1·76	...	10·19	1·41	5·27	..	3·16	21·78	41·38	102
.	...	...	10	59	...	2·13	...	11·87	...	0·91	...	3·04	17·96	34·34	103
...	...	...	31	135	...	2·61	...	8·44	0·80	9·04	...	0·23	27·11	36·63	104
1	...	30	324	1,369	0·11	3·59	1·00	12·04	1·16	8·89	0·79	8·55	36·13	42·35	105
...	...	6	61	344	...	0·11	0·05	8·96	0·48	5·26	0·32	3·27	18·45	31·99	106
...	...	1	21	102	..	0·69	0·17	9·80	0·52	2·58	0·17	3·61	17·54	32·22	107
...	2	6	25	94	0·39	3·54	...	15·33	0·39	5·11	2·36	9·83	36·95	30·11	108
...	...	...	27	82	...	0·19	...	6·02	1·17	3·30	...	5·25	15·93	29·10	109
...	...	1	23	134	...	...	...	17·06	2·37	4·32	0·22	4·97	28·93	48·32	110
...	...	5	12	104	...	2·82	...	14·59	1·41	1·65	1·18	2·82	24·47	39·62	111
...	...	6	28	144	...	...	...	8·81	0·34	3·28	0·68	3·10	16·26	24·87	112
...	...	2	18	69	...	...	...	7·81	1·04	3·90	0·52	4·68	17·95	22·68	113
...	...	1	3	142	...	0·96	...	5·38	...	0·96	0·19	0·58	8·08	8·19	114
...	...	...	4	32	...	1·17	...	2·18	0·34	1·01	...	0·67	5·37	9·26	115
...	1	1	43	123	0·24	0·24	0·24	13·08	1·21	4·12	0·24	10·42	29·80	38·14	116
...	...	...	2	43	...	1·29	...	23·30	1·29	0·65	...	1·29	27·83	24·08	117
...	...	1	13	59	...	3·12	...	5·98	...	2·60	0·26	3·38	15·34	10·92	118
...	..	2	10	76	0·60	...	...	4·01	...	0·85	0·17	0·85	6·48	11·86	119
...	...	1	8	73	2·40	1·00	...	8·80	...	0·60	0·20	1·60	14·61	Not available.	120

ANNUAL FOR

DEATHS FROM DIFFERENT CAUSES AND BIRTHS REGISTERED IN THE TOW

1	2	3	4				5	6	7	8	9	10
			Births.									
Number.	Towns.	Population according to Census of 1921.	Males.	Females.	Total.	Birth rate per 1,000 of population.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.
i	2	3	4	5	6	7	8	9	10	11	12	13
	GUJRAT DISTRICT.											
121	Gujrat ...	21,974	552	518	1,070	48·69	...	...	...	253	22	134
122	Jalalpur	10,792	263	214	477	44·20	5	24	...	150	10	89
123	Kunjah	7,240	143	134	277	38 26		...	43	132	9	28
124	Dinga	6,014	99	85	184	30·60	1	4	...	60	...	19
	SHAHPUR DISTRICT.											
125	Shahpur	4,590	92	67	159	34·64	...	12	19	47	9	17
126	Sahiwal	6,582	176	173	349	53·02	...	1	...	119	3	29
127	Bhera	17,027	443	412	855	50·21	...	46	...	216	22	52
128	Miani	5,965	128	113	241	40·40	...	2	...	110	1	6
129	Khushab	10,009	263	219	482	48·16	...	3	...	121	8	39
130	Sargodha	17,728	313	298	611	34 47	...	1	...	97	9	84
131	Shahpur Civil Station ...	2,481	48	37	85	34·26	...	4	...	53	1	14
	JHELUM DISTRICT.											
132	Jhelum	14,422	298	255	553	38·34	...	6	...	119	12	78
133	Pind Dadan Khan ...	9,919	226	165	391	39·42	...		...	164	10	29
134	Chakwal	7,425	109	76	185	24·92	...	2	...	69	6	42
	RAWALPINDI DISTRICT.											
135	Rawalpindi	55,251	1,206	1,177	2,383	43·13	6	2	...	601	68	382
136	Murree	2,397	41	32	73	30 45	...	...	..	17	1	7
	ATTOCK DISTRICT.											
137	Pindigheb	9 419	176	130	306	32·49	...	1	...	180	3	38
138	Hazro	8,408	177	159	336	39·96	...	13	...	74	5	41
139	Campbellpur	3,666	70	56	126	34·34	...	2	...	15	...	7
	MIANWALI DISTRICT.											
140	Mianwali	9,115	228	191	419	45·97	...	1	...	90	...	13
141	Bhakkar	6,193	144	166	310	50·06	...	3	1	146	1	17
142	Isa Khel	6,172	168	130	298	48·28	...	...	...	51	3	23
143	Kalabagh	8,455	204	174	378	44·71	...	...	..	118	...	13
	MONTGOMERY DISTRICT.											
144	Montgomery ...	14 601	177	126	303	20·75	3	9	2	58	10	16
145	Kamalia	8,916	268	217	485	54·40	...	...	...	212	2	...
146	Pakpattan	7,218	213	172	385	53·34	...	2	...	314	5	8
147	Okara	4,975	94	61	155	31·16	50	6	...	31	1	17
148	Chichawatni	2,100	24	13	37	17·62	...	1	..	12	1	1
	LYALLPUR DISTRICT.											
149	Lyallpur	28,136	427	391	818	29·07	10	28	...	160	3	60
150	Gojra	7,622	144	121	265	34·77	...	1	...	34	6	13
151	Samundri	1 575	49	30	79	50·16	...	...	...	22	...	17
152	Tandlianwala	3,674	79	73	152	41·37	1	1	...	26	...	7
	JHANG DISTRICT.											
153	Jhang-Maghiana ...	30,139	843	704	1,547	51·33	2	...	...	417	53	112
154	Chiniot	17,513	525	512	1,037	59 21	...	1	...	241	17	35
155	Ahmadpur	4,045	85	69	154	38·07	...	...	...	59	..	4
	MULTAN DISTRICT.											
156	Multan	89,162	2,209	2,014	4,223	47·36	2	10	335	1,119	221	750
157	Shujabad	6,730	148	133	281	41·75	...	...	2	124	12	30
158	Jahanian	822	7	4	11	13·38	...	...	...	3	...	...
159	Mian Channu ...	2,294	27	15	42	18·31	15	1	...	9	]	2
160	Khanewal	5,647	64	33	97	17·18	...	1	...	22	4	12
	MUZAFFARGARH DISTRICT.											
161	Muzaffargarh ...	5,386	87	75	162	30·08	...	2	...	54	3	17
162	Khangarh ...	3,184	61	[63	124	38 94	...	..	...	65	7	11
163	Alipur ..	3,434	87	80	167	48·63	...	2	...	64	9	32
164	Leiah ...	8,476	213	185	398	46·96	1	...	...	182	15	7
165	Karor ...	3,539	112	87	199	56·23	...	...	...	81	1	...
166	Kot Adu ...	5,267	64	56	120	22·78	...	1	...	58	...	1
	DERA GHAZI KHAN DISTRICT.											
167	Dera Ghazi Khan ...	20,731	437	414	851	41·05	1	..	...	313	50	62
168	Jampur	7,317	200	183	383	52·34	..	1	...	123	6	30
169	Dajal	5,775	182	165	347	60·09	...	5	...	139	2	13
170	Rajanpur	3,964	123	92	215	54·24	...	1	...	58	2	12
171	Kot Mithan	3,204	79	58	137	42·76	...	...	...	44	2	2
	Total ...	2,120,497	47,180	42,180	89,360	42·09	1,430	1,419	922	25,443	2,685	13,592
	Total of the Province ..	20,517,606	457,668	409,688	867,356	42·27	11,286	9,920	8,452	358,679	11,136	56,915

I-B (TOWNS)—*concluded.*

HE PUNJAB DURING THE YEAR 1927—*concluded.*

11			12	13	14										15
					Ratio of deaths per 1,000 of population.										
Snake-bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean ratio of previous five years.	Number.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	...	13	137	559	...	...	..	11·51	1·00	6·10	0·59	6·23	25 44	38·78	121
...	...	1	58	337	0·46	2·22	...	13·90	0·93	8·25	0·09	5·37	31·23	44·94	122
...	...	1	62	275		...	5·94	18·23	1·24	3·87	0·14	8·56	37 98	51·77	123
1	1	4	15	103	0·16	0·67	...	9·98	...	3·16	0·67	2 49	17·13	28·80	124
...	...	4	27	135	...	2·61	4·14	10·24	1·96	3·70	0·87	5·88	19·41	34·07	125
...	...	2	8	162	...	0·15	...	18·08	0·46	4·41	0·30	1·22	24·61	31 87	126
1	...	7	157	500	...	2·70	...	12·69	1·29	3.05	0·41	9·22	29·37	36·39	127
...	...	4	12	135	...	0·34	...	18·44	0·17	1·01	0·68	2·01	22 63	38·22	128
...	...	1	66	238	...	0·30	...	12·09	0 80	3·90	0·10	6·59	23·78	26·06	129
...	...	13	41	245	.	0 06	...	5·47	0·51	4·74	0·73	2 31	13·82	14·82	130
...	...	...	22	94	...	1·61	...	21·36	0·40	5·64	...	8·87	37·89	Not available.	131
	1	10	68	293	...	0·42	...	8·25	0·83	5·41	0·69	4·72	20·32	36·90	132
...	...	3	47	253	...	...	...	16·53	1·01	2·92	0·30	4·74	25·51	33·61	133
...	...	5	40	164	...	0·27	...	9·29	0·81	5·66	0·67	5·39	22·09	34·02	134
...	...	36	401	1,496	0·11	0·04	...	10·88	1·23	6·91	0·65	7·26	27·08	34·33	135
...	...	...	2	27	...	...	...	7·09	0·42	2·92	...	0·83	11·26	14·27	136
...	...	...	6	228	...	0·11	...	19·11	0·32	4·03	...	0·64	24·21	22·32	137
...	...	5	54	192	...	1·55	...	8·80	0·59	4·88	0·59	6·42	22 84	25·98	138
...	...	1	10	35	...	0·55	...	4·09	...	1·91	0·27	2·73	9·54	Not available.	139
...	1	3	21	128	...	0·11	...	9·87	...	1·43	0·33	2 30	14·04	17·22	140
...	...	2	48	218	...	0·48	0·16	23·58	0·16	2·74	0·32	7·75	35·20	31·49	141
...	...	1	73	151	...	...	...	8·26	0·49	3·73	0·16	11·83	24·47	24·63	142
...	...	5	58	194	...	...	...	13·96	...	1·54	0·59	6 86	22·95	28·67	143
...	...	8	33	139	0·21	0·62	0·14	3·97	0·68	1·10	0·55	2·26	9·52	13·23	144
...	...	4	58	276	...	...	...	23·78	0·22	...	0·45	6·51	30·96	28·40	145
1	...	3	45	377	..	0·28	...	43·50	0·69	1·11	0·42	6·23	52·23	27·93	146
...	1	4	17	126	10·05	1·21	...	6·23	0·20	3·42	0·80	3·42	25·33	23·72	147
...	...	1	5	21	...	0·48	..	5·71	0·48	0·48	0·48	2·38	10·00	Not available.	148
...	1	3	77	341	0·36	1·00	..	5·69	0·11	2·13	0·11	2 74	12·12	12·02	149
...	...	2	41	97	...	0·13	...	4·46	0 79	1·71	0·26	5·38	12·73	17·69	150
...	...	1	10	50	...	...	...	13·97	...	10 79	0·63	6·35	31·75	21·84	151
...	...	5	5	45	0·27	0 27	...	7·08	...	1.91	1·36	1·36	12·25	Not available.	152
1	...	10	223	817	0.07	...	...	13·84	1·76	3·72	0·33	7·40	27·11	31·16	153
...	1	15	174	483	...	0·06	...	13·76	0·97	2·00	0·86	9·94	27·58	34·21	154
1	...	1	20	84	..	...	...	14·59	...	0·99	0·25	4·94	20·77	28 92	155
...	...	24	642	3,103	0·02	0·11	3·76	12·55	2·48	8·41	0·27	7·20	34·80	31 50	156
...	...	2	39	209	...	...	0·30	18·42	1·78	4·46	0·30	5·79	31·05	33·70	157
...	..	...	1	4	..	...	...	3·65	...	...	...	1·22	4·87	15·82	158
...	...	..	4	32	6·54	0·44	..	3·92	0·44	0·87	...	1·74	13·95	7·67	159
...	...	1	4	44	...	0·18	...	3·90	0·71	2·13	0·18	0·71	7 79	Not available.	160
...	...	1	16	93	...	0·37	...	10·03	0·56	3·16	0·19	2·97	17·27	21·98	161
...	...	..	29	112	...	...	...	20·41	2·20	3·45	...	9·11	35·18	38·82	162
...	...	...	13	120	...	0·58	...	18·64	2·62	9·32	...	3·79	34·94	35·88	163
...	...	3	27	235	0·12	...	...	21·47	1·77	0 83	0·35	3·19	27·73	27·70	164
...	...	1	26	109	...	...	..	22·89	0·28	...	0·28	7·35	30·80	41·20	165
...	...	...	4	64	...	0·19	...	11·01	...	0·19	...	0·76	12·15	19·21	166
1	...	4	139	569	0·05	...	...	15·10	2·41	2·99	0·19	6·70	27·45	23·44	167
1	...	1	92	253	...	0·14	...	16·81	0·82	4·10	0·14	12·57	34·58	30·48	168
1	...	3	46	208	...	0·87	...	24·07	0·35	2·25	0·52	7·97	36·02	45·44	169
...	...	1	15	89	...	0·25	...	14·63	0·50	3·03	0·25	3·78	22·45	26·54	170
..		.	21	69	...	...	...	13·73	0·62	0·62	...	6·55	21·54	26·28	171
21	25	807	15,590	61,888	0·67	0·67	0·43	12·00	1·27	6·41	0·38	7.35	29·19	33 42	
812	108	6,776	100,185	563,349	0·55	0·48	0·41	17·48	0·54	2·77	0·33	4·88	27·46	32·59	

ANNUAL FORM No. VI-C.

BIRTHS AND DEATHS REGISTERED IN THE CANTONMENTS OF THE PUNJAB DURING THE YEAR 1927.

Number.	Cantonments.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and Diarrhœa.	Respiratory diseases.	Injuries.					All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.	Total births registered during the year.	Ratio of births per 1,000 of population.	Number.
									Suicide.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.						
									Males.	Females.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Ambala	36,356	1	8	1	299	20	420	...	...	9	1	10	243	1,002	28	1,615	44	1
2	Kasauli	3,212	...	...	8	27	2	...	...	..	1	24	25	44	106	33	71	22	2
3	Dagshai	1,745	...	...	...	5	2	9	...	...	1	...	1	3	20	11	23	13	3
4	Subathu	1,581	...	7	...	29	5	1	...	..	...	...	...	7	49	31	44	28	4
5	Jutogh	1,064	...	.	...	4	...	...	...	...	2	...	2	3	9	8	14	13	5
6	Dharmsala	1,318	...	...	..	44	4	...	...	...	...	...	...	8	56	42	133	101	6
7	Jullundur	9,019	...	...	...	86	6	30	...	...	2	...	2	22	146	16	175	19	7
8	Ferozepore	18,941	2	2	...	519	2	17	...	1	5	1	7	70	619	33	831	44	8
9	Lahore	14,606	6	1	...	186	7	...	...	...	...	...	...	78	278	19	367	25	9
10	Amritsar	976	...	...	...	3	...	5	...	...	...	...	...	1	9	9	14	14	10
11	Dalhousie	948	...	...	...	18	...	...	...	...	...	...	...	7	25	26	32	34	11
12	Bakloh	3,430	...	...	...	12	...	...	...	...	...	...	...	2	14	4	55	16	12
13	Sialkot	7,123	...	...	...	52	2	...	...	...	2	...	2	45	101	14	210	29	13
14	Jhelum	1,500	...	...	...	5	...	...	...	...	...	...	...	7	12	8	12	8	14
15	Rawalpindi	27,657	...	2	...	120	6	71	1	...	3	...	4	70	273	10	784	28	15
16	Campbellpur	4,190	...	...	...	15	...	6	1	...	...	...	1	4	26	6	45	11	16
17	Murree	874	...	...	...	1	...	...	...	...	...	...	...	6	7	8	8	9	17
18	Multan	6,090	...	...	...	37	...	21	...	...	2	...	2	17	77	13	60	10	18
	Total ...	140,630	9	20	9	1,462	56	580	2	1	27	26	56	637	2,829	20	4,493	32	

ANNUAL FORM No. VII.

DEATHS REGISTERED FROM CHOLERA IN THE DISTRICTS OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

ANNUAL FORM

DEATHS REGISTERED FROM CHOLERA IN THE DISTRICTS

1	2	3		4		5					
		Circles of registration.		Villages.							Mo
Number.	Districts.	Number in each district.	Number from which deaths from Cholera were reported.	Number in each district.	Number from which deaths from Cholera were reported	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	27	18	959	58	...	...	...	4	65	159
2	Rohtak	20	16	722	50	...	...	...	...	...	120
3	Gurgaon	24	11	1,351	15	...	...	...	1	...	36
4	Karnal	25	19	1,390	22	...	...	...	3	32	57
5	Ambala	20	15	1,714	56	.		1	2	97	45
6	Simla	3	1	208	...	...	...	...	1	...	...
	JULLUNDUR DIVISION.										
7	Kangra	10	4	709	4	...	...	...	...	4	...
8	Hoshiarpur ..	23	17	2,111	37	...	...	...	7	18	20
9	Jullundur	18	14	1,221	41	...	...	...	4	50	26
10	Ludhiana	14	12	858	61	...	...	...	1	7	12
11	Ferozepore	25	23	1,498	184	...	...	...	...	3	101
	LAHORE DIVISION.										
12	Lahore	32	29	1,118	385	...	...	...	2	29	947
13	Amritsar	17	14	1,035	89	...	...	...	17	9	15
14	Gurdaspur	22	9	2,246	6	...	..	...	...	...	3
15	Sialkot	28	5	2,053	4	...	...	...	1	...	7
16	Gujranwala ...	20	3	1,212	1	...	...	...	2	...	...
17	Sheikhupura ...	21	14	1,213	55	...	...	...	...	13	48
	RAWALPINDI DIVISION.										
18	Gujrat	17	6	1,433	5	..	...	...	...	6	5
19	Shahpur	24	1	985	1	...	...	...	...	...	...
20	Jhelum	15	1	888	1	...	...	...	...	..	1
21	Rawalpindi ...	14	4	1,170	8	...	...	...	...	13	1
22	Attock	14	1	618	1	..	...	...	...	...	...
23	Mianwali	16	..	375	...	...	...	...	...	...	...
	MULTAN DIVISION.										
24	Montgomery ...	28	18	1,831	136	..	...	...	1	3	90
25	Lyallpur	21	10	972	46	...	...	...	...	...	51
26	Jhang	14	2	981	1	...	...	1	1	...	1
27	Multan	23	4	1,645	5	...	..	...	...	...	24
28	Muzaffargarh ...	24	5	849	8	...	...	...	1	1	21
29	Dera Ghazi Khan ..	23	3	714	3	...	...	...	...	2	1
	Total ...	591	279	34,082	1,283	...	...	2	48	352	1,791

VII.

THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

						6			7			8	9
						Total.			Ratio of deaths per 1,000 of population.				
	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous five years.	Number.
3	14	15	16	17	18	19	20	21	22	23	24	25	26
201	49	10	..	...	...	296	192	488	0·68	0·50	0·60	0·0004	1
92	8	...	...	...	...	136	84	220	0·33	0·24	0·28	0·0002	2
55	...	...	...	...	...	55	37	92	0·15	0·12	0·13	0·12	3
88	15	...	...	..	...	116	79	195	0·26	0·21	0·24	0·003	4
11	12	...	...	...	...	105	63	168	0·29	0·22	0·26	0·06	5
...	...	...	...	—	...	1	...	1	0·04	...	0·02	0·01	6
...	2	3	1	...	..	9	1	10	0·02	0·002	0·01	0·01	7
28	38	80	3	...	..	110	84	194	0·22	0·20	0·21	0·02	8
49	58	38	...	..	...	122	103	225	0·27	0·28	0·28	0·02	9
303	78	...	...	...	...	254	147	401	0·80	0·59	0·71	0·05	10
2,581	691	20	...	...	...	1,945	1,451	3,396	3·25	3·02	3·15	0·04	11
2,450	536	87	19	...	..	2,391	1,679	4,070	3·76	3·50	3·64	0·26	12
309	205	77	20	...	..	388	264	652	0·75	0·64	0·70	0·06	13
16	48	33	17	...	...	66	51	117	0·14	0·13	0·14	0·06	14
...	...	9	...	...	...	9	8	17	0·02	0·02	0·02	0·11	15
2	2	...	..	...	...	5	1	6	0·01	0·003	0·01	0·05	16
65	27	...	...	...	..	81	72	153	0·23	0·26	0·24	0·02	17
6	2	...	...	...	...	9	10	19	0·02	0·03	0·02	0·09	18
1	...	...	...	...	...	...	1	1	...	0·003	0·001	0·25	19
...	...	...	...	...	...	1	...	1	0·004	...	0·002	0·17	20
2	4	...	...	...	...	11	9	20	0·04	0·04	0·04	0·05	21
1	...	...	...	...	...	1	...	1	0·003	...	0·001	0·004	22
...	...	...	...	...	...	...	...	...	...	...	...	0·01	23
229	167	12	...	...	...	300	202	502	0·76	0·63	0·70	0·06	24
80	77	53	...	...	...	150	111	261	0·29	0·27	0·28	0·10	25
...	...	...	...	...	...	3	...	3	0·01	...	0·01	0·07	26
2	...	...	...	...	...	19	7	26	0·04	0·02	0·03	0·01	27
20	...	...	...	...	...	27	16	43	0·09	0·06	0·08	0·001	28
1	...	...	...	...	...	3	1	4	0·01	0·004	0·01	...	29
6,592	2,019	422	60	...	...	6,613	4,673	11,286	0·59	0·50	0·55	0·06	

ANNUAL FORM

DEATHS REGISTERED FROM SMALLPÔX IN THE DISTRICTS

1	2	3		4		5						
		Circles of registration.		Villages.		Month						
Number.	Districts.	Number in each district.	Number from which deaths from Small-pox were reported.	Number in each district.	Number from which deaths from Small-pox were reported.	January.	February.	March.	April.	May.	June.	July.
1	2	3	4	5	6	7	8	9	10	11	12	13
	AMBALA DIVISION.											
1	Hissar	27	24	959	37	33	34	22	36	50	51	61
2	Rohtak	20	14	723	41	2	7	21	6	6	10	...
3	Gurgaon	24	6	1,351	8	...	9	5	3	...	...	1
4	Karnal	25	23	1,390	10	27	22	19	33	69	58	49
5	Ambala	20	18	1,714	108	16	28	27	38	62	45	13
6	Simla	3	2	208	2	...	..	...	1	1	...	...
	JULLUNDUR DIVISION.											
7	Kangra	19	14	709	52	18	24	19	13	20	17	32
8	Hoshiarpur	23	20	2,111	310	118	144	126	126	151	148	72
9	Jullundur	18	14	1,221	45	26	13	26	11	15	12	16
10	Ludhiana	14	13	858	97	15	3	15	2	10	19	18
11	Ferozepore	25	23	1,498	46	7	21	32	7	15	2	4
	LAHORE DIVISION.											
12	Lahore	32	27	1,118	165	147	138	106	81	87	95	69
13	Amritsar	17	15	1,035	77	67	56	20	40	56	59	68
14	Gurdaspur	22	18	2,246	124	58	30	28	34	54	34	29
15	Sialkot	28	23	2,053	238	54	44	44	25	33	36	25
16	Gujranwala	20	17	1,212	233	71	53	57	45	56	34	46
17	Sheikhupura	21	20	1,213	396	26	41	46	56	98	81	98
	RAWALPINDI DIVISION.											
18	Gujrat	17	15	1,436	152	84	41	45	34	34	56	55
19	Shahpur	24	22	985	102	42	61	61	44	47	42	23
20	Jhelum	15	12	888	48	20	7	9	16	10	9	13
21	Rawalpindi	14	10	1,170	38	4	8	9	4	1	3	4
22	Attock	14	12	618	49	12	17	8	3	4	5	4
23	Mianwali	16	10	375	35	4	6	7	7	5	13	1
	MULTAN DIVISION.											
24	Montgomery	28	26	1,831	121	91	78	109	83	129	114	95
25	Lyallpur	21	20	972	68	86	109	80	77	103	109	79
26	Jhang	14	11	931	33	4	13	7	1	8	8	2
27	Multan	23	20	1,645	90	17	13	18	15	35	32	37
28	Muzaffargarh	24	18	849	116	27	18	32	27	18	18	27
29	Dera Ghazi Khan	23	21	714	156	84	115	62	75	85	49	23
	Total ...	591	488	34,082	2,997	1,160	1,153	1,060	943	1,267	1,159	969

No. VIII.

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

August.	September.	October.	November.	December.	6 Total. Males.	6 Total. Females.	6 Total. Total.	7 Number of deaths among children. Under one year.	7 Number of deaths among children. Over one year and under ten years.	8 Ratio of deaths per 1,000 of population. Males.	8 Ratio of deaths per 1,000 of population. Females.	8 Ratio of deaths per 1,000 of population. Total.	9 Mean ratio per 1,000 for previous five years.	10 Number.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
5	5	5	2	16	166	154	320	84	184	0·38	0·40	0·39	0·34	1
...	...	...	1	7	36	24	60	16	32	0·09	0·07	0·08	0·03	2
...	...	...	...	...	10	8	18	2	13	0·03	0·03	0·03	0·13	3
17	7	4	3	6	183	131	314	81	163	0·40	0·35	0·38	0·08	4
12	...	...	...	8	121	128	249	43	98	0·34	0·45	0·39	0·12	5
...	...	1	...	4	6	1	7	1	...	0·22	0·07	0·17	0·09	6
11	1	...	8	8	101	70	171	9	22	0·26	0·19	0·22	0·07	7
43	18	24	50	86	591	515	1,106	226	561	1·19	1·20	1·19	0·53	8
5	1	1	1	4	69	62	131	26	66	0·15	0·17	0·16	0·25	9
13	11	4	4	15	56	73	129	17	71	0·18	0·29	0·23	0·36	10
9	3	7	17	26	81	69	150	66	70	0·14	0·14	0·14	0·28	11
35	23	20	35	66	462	440	902	340	319	0·73	0·92	0·81	0·59	12
34	21	8	14	36	247	232	479	110	269	0·48	0·57	0·52	0·36	13
4	1	7	3	9	144	147	291	60	130	0·31	0·39	0·34	0·16	14
10	10	11	52	73	217	205	422	141	206	0·46	0·52	0·49	0·36	15
17	6	14	31	86	260	256	516	137	285	0·75	0·93	0·83	0·35	16
56	15	39	50	89	387	308	695	179	384	1·10	1·11	1·11	0·28	17
27	9	4	8	51	224	224	448	139	255	0·51	0·58	0·54	0·28	18
10	13	1	6	7	178	184	362	129	172	0·45	0·56	0·50	0·37	19
...	...	2	7	8	40	61	101	28	49	0·17	0·26	0·21	0·49	20
...	2	...	10	21	32	34	66	28	22	0·11	0·14	0·12	0·17	21
5	4	19	40	54	86	89	175	66	91	0·33	0·36	0·34	0·33	22
...	...	2	...	...	22	23	45	12	26	0·12	0·14	0·13	0·19	23
60	30	24	19	63	462	433	895	234	524	1·17	1·35	1·25	0·94	24
57	25	27	39	97	474	414	888	252	462	0·91	1·00	0·95	0·44	25
2	1	...	...	...	30	16	46	11	14	0·10	0·06	0·08	0·21	26
10	8	5	16	14	119	101	220	48	120	0·23	0·25	0·25	0·39	27
7	7	4	...	4	105	84	189	27	57	0·34	0·32	0·33	0·23	28
13	4	1	8	6	285	240	525	110	276	1·11	1·13	1·12	0·25	29
462	225	234	424	864	5,194	4,726	9,920	2,622	4,941	0·46	0·51	0·48	0·32	

ANNUAL FORM

DEATHS REGISTERED FROM FEVERS IN THE DISTRICTS

1	2	3		4		5					
		Circles of registration.		Villages.		Months.					
Number.	Districts.	Number in each district.	Number from which deaths from Fevers were reported.	Number in each district.	Number from which deaths from Fevers were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	27	27	959	959	1,487	1,291	1,245	1,409	1,398	1,512
2	Rohtak	20	20	722	722	1,879	1,541	1,359	1,441	1,437	1,589
3	Gurgaon	24	24	1,351	1,312	1,927	1,427	1,295	920	972	992
4	Karnal	25	25	1,390	1,390	2,280	1,941	1,683	1,364	1,709	1,618
5	Ambala	20	20	1,714	1,714	846	740	817	704	779	782
6	Simla	3	3	208	56	9	4	8	4	11	4
	JULLUNDUR DIVISION.										
7	Kangra	19	19	709	709	672	895	986	667	989	803
8	Hoshiarpur	23	23	2,111	2,043	1,723	1,592	1,799	1,793	2,275	1,902
9	Jullundur	18	18	1,221	1,112	1,433	1,261	1,397	1,245	1,440	1,236
10	Ludhiana	14	14	858	744	782	675	762	728	952	824
11	Ferozepore	25	25	1,498	1,467	1,292	1,211	1,351	1,304	1,512	1,516
	LAHORE DIVISION.										
12	Lahore	32	32	1,118	1,113	1,232	1,150	961	902	1,729	1,668
13	Amritsar	17	17	1,035	1,035	1,913	1,488	1,391	1,216	1,706	1,513
14	Gurdaspur	22	22	2,246	2,246	1,458	1,164	1,189	1,010	1,260	1,037
15	Sialkot	28	28	2,053	1,991	1,658	1,241	1,195	966	1,292	1,075
16	Gujranwala	20	20	1,212	1,212	1,594	1,195	919	796	995	1,067
17	Sheikhupura	21	21	1,213	1,183	1,065	973	874	814	1,118	939
	RAWALPINDI DIVISION.										
18	Gujrat	17	17	1,436	1,105	1,527	1,200	1,106	838	949	844
19	Shahpur	24	24	985	985	1,030	1,007	1,157	1,234	1,203	1,152
20	Jhelum	15	15	888	888	899	778	594	547	541	572
21	Rawalpindi	14	14	1,170	1,170	888	658	630	600	578	629
22	Attock	14	14	618	618	1,273	989	862	667	612	619
23	Mianwali	16	16	375	375	792	898	937	726	635	613
	MULTAN DIVISION.										
24	Montgomery	28	28	1,831	1,831	1,153	1,016	962	952	861	954
25	Lyallpur	21	21	372	972	1,273	1,223	1,344	1,541	1,979	1,726
26	Jhang	14	14	981	699	796	788	797	712	897	740
27	Multan	23	23	1,645	1,645	1,846	1,555	1,258	1,300	1,549	1,428
28	Muzaffargarh	24	24	849	839	1,405	1,277	1,169	937	1,190	898
29	Dera Ghazi Khan ...	23	23	714	610	862	821	809	676	734	570
	Total ...	591	591	34,082	32,745	37,084	31,999	30,861	28,013	33,202	30,872

No. IX.

OF THE PUNJAB, DURING EACH MONTH OF THE YEAR 1927.

						6			7			8	9
						Total.			Ratio of deaths per 1,000 of population.				
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous five years.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26
1,379	978	1,099	1,341	1,195	1.289	8,349	7 268	15.617	19 17	19·06	19·12	22·96	1
1,122	793	879	1,057	1,133	1,261	8,482	7 014	15,496	20 32	19·76	20·07	23·09	2
771	656	1,026	1,727	1,400	1,634	7,884	6,863	14,747	21·44	21·21	21·62	19·67	3
1,316	942	1,205	1,205	1,034	1 220	9,471	7,851	17,322	20·88	20·93	20·90	30·22	4
696	487	823	1,068	567	506	4,656	4,159	8,815	12 90	14·80	13·73	15·11	5
8	5	4	4	7	7	42	33	75	1·52	2·47	1·83	9 51	6
699	676	804	757	745	826	5,051	4 468	9,519	12·85	12·02	12·45	16·03	7
1,463	1,306	1,970	2,100	1,623	1,589	10,901	10,234	21,135	21·86	23·87	22·79	21·64	8
1,183	1,151	1,245	1,271	1,124	1,116	7,755	7,397	15,152	17·23	20·35	18·63	19·87	9
849	621	726	649	575	599	4,491	4,250	8,741	14·09	17·08	15 40	18·49	10
1,371	1,057	939	964	1,313	1,388	8 2·8	6,960	15,218	13·79	14·48	14·10	19·32	11
1,359	1,219	1,244	1,133	1 213	1,325	8,135	7,090	15,135	12·78	14·58	13·55	16·52	12
1,542	1,633	1,699	1,560	1.721	i,425	10.240	8,607	18,847	19·75	21·00	20·30	23·47	13
1,008	955	1 451	1,689	1 381	1,300	7.792	7 110	14,902	16·66	18·70	17·58	19·08	14
1,013	1.034	1,313	1,506	1,418	1,431	7,905	7 237	15.142	16·74	18·24	17·43	20·41	15
845	882	780	808	1,007	1 298	6.597	5 589	12 186	18·92	20·33	19·54	21·06	16
956	823	753	780	803	1,005	5,959	4,944	10,903	16·96	17·84	17·35	16·01	17
821	814	970	995	1.086	1 127	6,588	5 689	12,277	15·02	14·76	14·90	15·30	18
915	720	692	709	786	859	6,150	5,364	11,514	15·69	16·36	15·99	15·24	19
514	470	587	587	639	729	3 802	3.655	7,457	15·81	15·55	15·68	16·46	20
539	509	581	698	682	732	4.034	3 689	7,723	13 80	14·85	14·23	16·90	21
696	716	659	738	866	1,069	5,164	4,602	9.766	19·71	18·71	19·22	19·41	22
601	459	531	509	587	679	4,169	3,798	7.967	21·94	22·58	22·24	22·33	23
938	721	745	765	925	1,437	6,157	5.312	11,469	15·65	16·58	16·07	18·65	24
1,464	1,259	1,222	1,176	1,195	1,173	8,874	7,701	16,575	16·98	18·64	17·71	16·74	25
742	640	555	631	690	771	4,860	3,899	8,759	15·91	14·71	15·35	17 81	26
1,257	911	954	1,054	1,404	1 527	8,530	7.513	16,043	17·60	18·80	18·14	19·98	27
689	625	599	926	1,104	1,214	6,629	5,404	12,033	21·48	20·80	21·17	25·83	28
567	428	495	625	770	787	4,492	3,652	8 144	17·45	17·25	17·36	23·94	29
27,323	23,494	26,549	28,975	28,993	31,314	191,417	167,262	358,679	17·08	17·96	17·48	19·63	

ANNUAL FORM

DEATHS REGISTERED FROM DYSENTERY AND DIARRHŒA IN THE DISTRICTS

1	2	3		4		5					
Number.	Districts.	Circles of registration.		Villages.		Mon					
		Number in each district.	Number from which deaths from Dysentery and Diarrhœa were reported.	Number in each district.	Number from which deaths from Dysentery and Diarrhœa were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	27	24	959	99	13	8	12	18	22	13
2	Rohtak	20	20	722	105	10	16	9	17	23	90
3	Gurgaon	24	23	1,351	195	50	16	23	23	17	10
4	Karnal	25	23	1,390	59	7	4	3	4	10	18
5	Ambala	20	20	1,714	121	22	13	18	20	47	32
6	Simla	3	2	208	11	...	1	1	3	4	6
	JULLUNDUR DIVISION.										
7	Kangra	19	18	709	709	238	225	250	224	316	390
8	Hoshiarpur	23	7	2,111	8	1	1	...	1	1	...
9	Jullundur	18	18	1,221	71	29	18	13	20	31	33
10	Ludhiana	14	14	858	113	15	14	10	14	36	27
11	Ferozepore	25	24	1,498	101	12	30	19	26	20	20
	LAHORE DIVISION.										
12	Lahore	32	28	1,118	93	49	58	56	71	90	140
13	Amritsar	17	17	1,035	143	31	16	12	21	31	21
14	Gurdaspur	22	21	2,246	246	37	29	20	20	72	71
15	Sialkot	28	26	2,053	135	38	17	12	14	33	20
16	Gujranwala	20	19	1,212	51	22	6	12	9	26	18
17	Sheikhupura	21	17	1,213	39	4	5	3	2	11	5
	RAWALPINDI DIVISION.										
18	Gujrat	17	16	1,436	77	21	8	13	12	16	12
19	Shahpur	24	23	985	69	8	10	4	25	22	18
20	Jhelum	15	15	888	65	7	5	9	11	16	15
21	Rawalpindi	14	1	1,170	793	191	143	156	114	131	75
22	Attock	14	12	618	18	...	1	...	2	1	5
23	Mianwali	16	11	375	23	3	2	...	3	4	2
	MULTAN DIVISION.										
24	Montgomery	28	21	1,831	46	5	8	7	9	8	3
25	Lyallpur	21	18	972	105	18	2	4	9	34	11
26	Jhang	14	13	981	86	37	40	36	98	112	61
27	Multan	23	14	1,645	20	12	10	17	23	27	14
28	Muzaffargarh	24	14	849	21	5	4	4	4	4	3
29	Dera Ghazi Khan ...	23	18	714	33	16	6	11	10	10	7
	Total ...	591	510	34,082	3,655	901	716	734	827	1,175	1,140

No. X.

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

						6			7			8	9
THS.						TOTAL.			RATIO OF DEATHS PER 1,000 of POPULATION.				
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous five years.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26
31	29	49	23	16	39	144	129	273	0·33	0·34	0·33	0·37	1
31	20	26	18	13	14	175	112	287	0·42	0·32	0·37	0·31	2
14	20	21	41	29	27	157	134	291	0·43	0·43	0·43	0·57	3
10	17	26	9	10	5	75	48	123	0·17	0·13	0·15	0·19	4
17	22	33	28	21	13	174	112	286	0·48	0·40	0·45	0·48	5
10	2	...	3	2	2	21	13	34	0·76	0·97	0·83	1·35	6
249	195	274	306	182	197	1,516	1,530	3,046	3·86	4·12	3·98	2·63	7
...	...	2	2	4	2	8	6	14	0·02	0·01	0·02	0·01	8
30	45	27	20	23	23	184	128	312	0·41	0·35	0·38	0·40	9
35	34	25	26	27	24	151	130	281	0·47	0·52	0·50	0·56	10
23	32	26	20	32	21	172	109	281	0·29	0·23	0·26	0·31	11
210	116	69	81	50	40	558	472	1,030	0·88	0·98	0·92	0·65	12
24	62	35	27	32	22	173	161	334	0·33	0·39	0·36	0·64	13
53	59	92	99	82	53	401	286	687	0·86	0·75	0·81	1·22	14
27	41	49	38	32	29	204	146	350	0·43	0·37	0·40	0·68	15
7	13	14	19	10	5	101	60	161	0·29	0·22	0·26	0·41	16
8	2	11	6	1	8	40	26	66	0·11	0·09	0·11	0·17	17
12	7	19	17	7	8	85	67	152	0·19	0·17	0·18	0·28	18
14	13	11	13	14	24	96	80	176	0·24	0·24	0·24	0·19	19
12	15	10	4	11	5	67	53	120	0·28	0·23	0·25	0·31	20
74	89	121	109	167	162	806	726	1,532	2·76	2·92	2·83	1·70	21
2	3	6	2	3	1	11	15	26	0·04	0·06	0·05	0·06	22
4	3	4	6	3	2	27	9	36	0·14	0·05	0·10	0·23	23
7	6	...	4	3	7	36	31	67	0·09	0·10	0·09	0·12	24
44	8	10	19	22	8	113	76	189	0·22	0·18	0·20	0·16	25
46	33	18	20	21	14	295	241	536	0·97	0·91	0·94	0·45	26
23	32	49	16	22	25	139	131	270	0·29	0·33	0·31	0·26	27
18	6	3	8	4	5	34	34	68	0·11	0·13	0·12	0·11	28
7	11	4	7	15	4	71	37	108	0·28	0·17	0·23	0·26	29
1,042	935	1,034	985	858	789	6,034	5,102	11,136	0·54	0·55	0·54	0·50	

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DEATHS REGISTERED FROM RESPIRATORY DISEASES IN THE DISTRICTS

1	2	3		4		5					
Number.	Districts.	Circles of registration.		Villages.		Months					
		Number in each district.	Number from which deaths from Respiratory Diseases were reported.	Number in each district.	Number from which deaths from Respiratory Diseases were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	27	27	959	319	255	306	260	194	146	108
2	Rohtak	20	20	722	637	319	312	280	202	118	139
3	Gurgaon	24	24	1,351	602	310	274	230	163	120	131
4	Karnal	25	25	1,390	662	436	319	224	218	218	158
5	Ambala	20	20	1,714	1,714	908	1,112	878	590	626	653
6	Simla	3	...	208	..	...	..	...	...	...	...
	JULLUNDUR DIVISION.										
7	Kangra	19	19	709	709	371	391	382	340	440	448
8	Hoshiarpur ...	23	23	2,111	923	265	322	294	194	227	174
9	Jullundur	18	18	1,221	412	234	223	230	177	160	130
10	Ludhiana	14	14	858	250	191	185	191	138	126	125
11	Ferozepore ...	25	24	1,498	540	277	246	209	147	166	129
	LAHORE DIVISION.										
12	Lahore	32	32	1,118	537	523	466	418	285	289	296
13	Amritsar	17	17	1,035	965	509	408	335	305	357	303
14	Gurdaspur	22	22	2,246	1,457	380	386	358	268	310	231
15	Sialkot	28	28	2,053	1,501	466	411	343	253	305	221
16	Gujranwala ...	20	20	1,912	328	254	246	175	105	84	70
17	Sheikhupura ...	21	21	1,213	207	91	88	66	23	19	5
	RAWALPINDI DIVISION.										
18	Gujrat	17	17	1,436	631	308	259	231	169	136	137
19	Shahpur	24	24	985	221	119	154	110	123	95	52
20	Jhelum	15	15	888	468	83	147	124	69	63	73
21	Rawalpindi	14	14	1,170	852	184	223	151	123	106	118
22	Attock	14	14	618	183	101	81	107	69	59	43
23	Mianwali	16	16	375	212	26	25	38	33	33	34
	MULTAN DIVISION.										
24	Montgomery	28	27	1,831	158	84	78	53	43	32	17
25	Lyallpur	21	21	972	375	113	149	91	104	90	33
26	Jhang	14	14	981	306	196	198	154	114	64	32
27	Multan	23	22	1,645	377	182	171	130	120	79	78
28	Muzaffargarh ..	24	21	849	83	21	38	13	9	7	23
29	Dera Ghazi Khan ...	23	21	714	109	29	31	45	28	24	21
	Total ...	591	580	34,082	15,718	7,335	7,249	6,120	4,606	4,499	3,982

No. XI

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

						6			7			8	9
						Total.			Ratio of deaths per 1,000 of population.				
July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous five years.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26
111	90	89	71	90	157	1,074	803	1,877	2·47	2·11	2·30	1·28	1
93	59	64	66	79	204	1,091	844	1,935	2·61	2·38	2·51	1·68	2
97	91	76	97	113	213	1,053	862	1,915	2·86	2·74	2·81	1·96	3
147	82	90	101	128	212	1 399	934	2,333	3·08	2·49	2·82	1·41	4
600	325	410	525	540	551	4,292	3,426	7,718	11·89	12·19	12·02	11·97	5
...	...	...	...	...	...	...	.	..	...	...	...	1·09	6
349	307	399	463	352	352	2,352	2,242	4,594	5·98	6·03	6·01	4·65	
143	102	136	157	169	245	1,436	992	2,428	2·88	2·31	2·62	2·40	8
101	162	126	119	144	158	1,125	839	1 964	2·50	2 31	2·41	2·14	9
118	111	95	95	207	158	975	765	1,740	3·06	3·08	3·07	2·81	10
160	142	132	110	131	183	1,127	905	2,032	1·88	1·88	1·88	1·29	11
374	301	217	289	331	498	2,299	1 988	4,287	3·61	4 14	3·84	2·76	12
305	360	259	233	302	384	2,163	1 897	4,060	4·17	4 63	4·37	3·99	13
200	224	236	298	299	462	2,091	1,561	3,652	4·47	4·10	4·31	6·90	14
221	224	266	281	269	363	2,092	1,531	3,623	4·43	3·86	4·17	2·42	15
65	80	68	52	62	147	849	559	1,408	2·43	2·03	2·26	1·76	16
4	3	6	5	19	47	263	113	376	0·75	0 41	0·60	0 48	17
102	124	138	117	117	187	1,189	836	2 025	2·71	2·17	2·46	2·35	18
27	16	18	30	78	247	692	377	1,069	1·76	1·15	1·48	0·43	19
78	61	49	56	70	115	659	429	1,088	2·74	1·82	2·29	2·26	20
96	106	96	84	131	178	837	759	1,596	2·86	3·05	2·95	3·19	21
51	55	56	41	59	56	456	322	778	1·74	1·31	1·53	1·29	22
29	20	25	37	21	27	192	156	348	1·01	0·93	0·97	0·84	23
18	8	14	..	9	54	275	135	410	0 70	0·42	0 57	0·47	24
70	42	61	37	72	120	554	428	982	1·06	1·04	1·05	0 81	25
19	19	24	29	66	82	562	435	997	1 84	1 64	1·75	2·14	26
65	52	53	56	78	142	685	521	1,206	1·41	1·30	1 36	1·09	27
24	14	15	9	9	22	119	85	204	0 39	0·33	0·36	0 35	28
15	12	12	10	19	24	159	111	270	0·62	0 52	0·58	0·50	29
3,682	3,192	3,230	3 468	3 964	5,588	32,060	24,855	56,915	2·86	2·67	2·77	2·38	

ANNUAL FORM

DEATHS REGISTERED FROM PLAGUE IN THE DISTRICTS

1	2	3		4		5					
Number.	Districts.	Circles of registration.		Villages.		Mon					
		Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.	June.
1	2	3	4	5	6	7	8	9	10	11	12
	AMBALA DIVISION.										
1	Hissar	27	15	959	22	11	2	33	179	126	8
2	Rohtak	20	15	722	197	9	72	161	249	88	10
3	Gurgaon ...	24	9	1,351	36	..	134	87	111	21	15
4	Karnal	25	14	1,390	16	62	50	36	72	85	4
5	Ambala	20	14	1,714	80	22	49	106	195	123	10
6	Simla	3	..	208	..	...	..	...	...	...	...
	JULLUNDUR DIVISION.										
7	Kangra	19	...	709	...			...	.	...	...
8	Hoshiarpur	23	7	2,111	31	36	26	38	87	41	10
9	Jullundur	18	5	1,221	3	2	4	14	7	9	...
10	Ludhiana	14	8	858	15	1	21	28	89	27	...
11	Ferozepore	25	13	1,498	87	50	77	144	472	276	25
	LAHORE DIVISION.										
12	Lahore	32	14	1,118	33	12	18	55	163	51	4
13	Amritsar	17	9	1,035	63	37	53	99	169	173	41
14	Gurdaspur	22	17	2,246	92	55	118	133	218	194	28
15	Sialkot	28	9	2,053	88	102	86	167	302	149	26
16	Gujranwala	20	10	1,212	41	25	24	90	142	175	18
17	Sheikhupura ..	21	12	1,213	297	60	39	99	252	108	56
	RAWALPINDI DIVISION.										
18	Gujrat	17	7	1,436	18	16	14	35	71	144	15
19	Shahpur	24	6	985	35	12	5	7	54	74	48
20	Jhelum	15	2	888	9	...	...	1	30	41	5
21	Rawalpindi	14	...	1,170	...	...	...	...	...	...	...
22	Attock	14	1	618	1	...	..	...	1	...	...
23	Mianwali	16	1	375	...	...	..	...	1	...	...
	MULTAN DIVISION.										
24	Montgomery	23	6	1,831	22	1	2	5	9	1	7
25	Lyallpur	21	5	972	5	...	...	3	28	15	1
26	Jhang	14	...	981	..	...	...	...	...	...	...
27	Multan	23	3	1,645	2	10	37	92	177	30	...
28	Muzaffargarh ...	24	1	849	1	...	...	4	...	...	...
29	Dera Ghazi Khan ...	23	...	714	...	...	..	.	...	...	...
	Total ...	591	263	34,082	1,194	605	851	1,437	3,078	1,851	331

No. XII.

OF THE PUNJAB DURING EACH MONTH OF THE YEAR 1927.

THS.						6			7			8	9
						TOTAL.			RATIO OF DEATHS PER 1,000 OF POPULATION.				
July.	Augus'.	Septemb.r.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	Mean ratio per 1,000 for previous five years.	Number.
13	14	15	16	17	18	19	20	21	22	23	24	25	26
27	...	10	1	2	15	219	215	434	0·50	0·56	0·53	3·68	1
...	..	..	27	6	3	355	352	707	0·85	0·99	0·92	15·73	2
1	...	...	...	...	...	198	171	369	0·54	0·54	0·54	3·71	3
...	2	...	..	2	16	176	153	329	0·39	0·41	0·40	9·69	4
..	...	...	...	10	22	245	292	537	0·68	1·04	0·84	1·63	5
...	...	..	...	...	...	...	...	...	...	..	..	...	6
...	...	...	...	...	...	..	...	...	...	...	...	0·004	7
...	...	2	10	11	30	122	169	291	0·24	0·39	0·31	0·43	8
...	...	...	..	...	...	18	18	36	0·04	0·05	0·04	0·21	9
..	...	...	4	3	...	87	86	173	0·27	0·35	0·30	0·97	10
...	...	...	.	...	...	468	576	1,044	0·78	1 20	0·97	1·43	11
3	...	..	...	...	...	157	149	306	0·25	0·31	0·27	5·30	12
...	...	...	...	...	...	261	311	572	0·50	0·76	0·62	2 87	13
2	...	...	1	6	32	385	402	787	0·82	1·06	0·93	2·27	14
1	...	...	...	...	6	396	443	839	0·84	1·12	0·97	13·68	15
3	..	...	...	...	...	233	244	477	0·67	0·89	0·77	10·29	16
18	..	...	...	...	...	335	297	632	0·95	1·07	1·01	7·93	17
...	...	1	...	...	...	98	98	196	0·22	0·25	0·24	18·19	18
8	...	...	...	...	..	97	111	208	0·25	0·34	0·29	3·79	19
...	...	..		...	..	46	31	77	0·19	0·13	0·16	6·66	20
.	.	...	...	...	...	...	...	..	...	...	...	2·30	21
...	...	.	..	...	...	...	1	1	...	0·004	0·001	1·98	22
...	...	...	...	...	...	1	...	1	0·005	...	0·002	0·02	23
9	1	..	...	...	...	16	19	35	0·04	0·06	0·05	1·95	24
...	...	..	...	...	...	32	24	47	0·04	0·06	0·05	3·02	25
...	..	...	...	...	...	...	...	...	...	...	...	0·47	26
1	...	...	...	...	3	189	161	350	0·39	0·40	0·40	0·16	27
.		...	...	.	...	4	..	4	0·01	..	0·01	0·02	28
...	...	...	...	.	...	..	..	...	...	...	..	0·01	29
73	3	13	43	40	127	4,129	4,323	8,452	0·37	0·46	0·41	4·44	

STATEME

MONTHLY STATEMENT OF PLAGUE OCCURRENCES IN BRIT

Serial No.	Districts and Punjab States.	JANUARY.		FEBRUARY.		MARCH.		APRIL		MAY.		JUNE.
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Hissar	15	11	26	22	38	33	200	179	136	126	9
2	Rohtak	103	91	97	72	186	161	277	249	101	88	12
3	Gurgaon	...	...	181	134	89	87	121	111	27	21	25
4	Karnal	85	62	57	50	50	36	110	72	118	85	6
5	Ambala ..	42	22	106	49	208	106	341	195	146	123	10
6	Simla	...	...	...	...	...	...	...	...	...	...	...
7	Kangra	...	...	...	...	...	...	..	...	...	...	..
8	Hoshiarpur	37	36	36	26	40	38	88	87	38	41	6
9	Jullundur	2	2	7	4	21	14	16	7	11	9	...
10	Ludhiana	..	1	28	21	39	28	98	89	23	27	...
11	Ferozepore	62	50	90	77	160	144	500	472	312	276	42
12	Lahore	15	12	23	18	67	55	181	163	45	51	8
13	Amritsar	54	37	73	53	153	99	225	169	239	173	45
14	Gurdaspur	77	55	131	118	161	133	250	218	237	194	59
15	Sialkot	127	102	113	86	311	167	433	302	152	149	29
16	Gujranwala	39	25	34	24	122	90	215	142	85	175	33
17	Sheikhupura	93	60	64	39	157	99	389	252	166	108	87
18	Gujrat	27	16	27	14	56	35	102	71	43	44	15
19	Shahpur	18	12	8	5	15	7	77	54	134	74	30
20	Jhelum	...	...	...	...	3	1	98	30	85	41	12
21	Rawalpindi	...	...	...	...	...	...	...	...	...	...	...
22	Attock	...	...	...	...	...	...	1	1	...	...	...
23	Mianwali	...	...	...	...	...	...	1	1	...	...	...
24	Montgomery	2	1	15	2	17	5	25	9	1	1	...
25	Lyallpur	...	...	...	...	7	3	36	28	20	15	...
26	Jhang	...	...	...	...	..	...	...	...	...	...	...
27	Multan	19	10	73	37	159	92	325	177	38	30	..
28	Muzaffargarh	.	..	..	...	5	4	...	...	...	...	...
29	Dera Ghazi Khan ...	...	..	...	...	...	...	1	...	...	...	...
	Total British Districts ...	817	605	1,189	851	2,064	1,437	4,110	3,078	2,157	1,851	428
1	Patiala	167	99	128	119	461	416	287	273	295	291	129
2	Bahawalpur	..	...	...	...	...	...	16	14	4	1	2
3	Jind	27	13	34	22	191	135	110	66	38	25	2
4	Nabha	18	14	15	9	17	10	40	34	22	20	..
5	Kapurthala	...	...	...	...	106	64	182	129	49	40	...
6	Sirmur (Nahan) ...	...	...	...	...	...	...	...	...	...	...	...
7	Malerkotla	..	...	...	...	...	..	...	...	...	...	...
8	Faridkot ...	...	...	...	...	...	...	...	...	...	...	...
9	Pataudi	...	...	9	3	37	21	21	10	2	...	...
10	Kalsia	35	25	5	5	10	3	40	19	...	..	..
11	Dujana	...	...	...	...	...	...	...	...	...	...	...
12	Nalagarh	...	...	...	...	...	..	...	...	...	...	..
	Total Punjab States ...	247	151	191	158	822	649	696	545	401	377	133
	GRAND TOTAL ...	1,064	756	1,380	1,009	2,886	2,086	4,806	3,623	2,558	2,228	561

1.

TRICTS AND PUNJAB STATES IN THE PUNJAB DURING THE YEAR 1927.

July.		August.		September.		October.		November.		December.		Total.		Serial No.	Remarks.
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
28	27	...		...	10	4	1	5	2	18	15	479	434	1	
..	...	...	...	...	..	34	27	11	6	7	3	828	707	2	
..	1	..	...	...	..	...	.	..	...	...	...	443	369	3	
..	...	3	2	...	...	...	...	4	2	25	16	458	329	4	
..	...	3	,	16	...	10	...	33	10	55	22	970	537	5	
..	...	.	...	...	...	...	...	...	...	...	..	...	...	6	
..	...	...	...	...	...	...	...	...	...	...	...	...	...	7	
..	..	..	...	8	2	9	10	13	11	38	30	313	291	8	
..	...	...	...	...	...	...	...	...	...	...	...	57	36	9	
..	...	...	...	...	...	9	4	1	3	...	...	198	173	10	
..	...	..	...	...	..	...	...	..	...		...	1,166	1,044	11	
2	3		...	..	...	...	...	...	..	...	...	341	306	12	
	...	..	...	...	..	...	...	...	...	...	...	789	572	13	
9	2	...	...	...	...	5	1	9	6	38	32	976	787	14	
..	1	.	...	...	...	1	...	..	...	8	6	1,174	839	15	
..	3	...		...	...	...	...	...	...	...	...	528	477	16	
29	18	...	...	...	...	...	...	...	...	...	...	985	632	17	
..	...	..	...	...	1	...	...	...	...	...	...	270	196	18	
3	8	...	...	...	...	...	...	...	...	...	...	285	208	19	
..	...	...	...	...	...	...	...	...	...	..	...	198	77	20	
..	...	...	...	...	...	...	...	...	...	..	...	...	...	21	
..	...	...	...	...	...	...	...	...	...	...	...	1	1	22	
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..	9	..	1	...		...	...	...	...	...	...	60	35	24	
..	...	...	...	...	..	..	...	...	...	...	...	63	47	25	
..	...	..	..	...	..	...	.	..	...	...	...	...	...	26	
2	1	.	...	...	...	...	...	...	...	6	3	622	350	27	
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73	73	6	3	24	13	72	43	76	40	195	127	11,211	8,452		
	...	...	..	...	...	...		32	15	36	30	1,535	1,372	1	
..	...	...	...	...	..	...	...	...	..	...	...	22	16	2	
.	...	...	...	2	...	...	...	..	...	...	...	404	262	3	
..	...	...	...	...	...	...	...	...	...	...	..	112	87	4	
..	...	...	...	...	...	...	..	...	..	...	...	328	233	5	
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..	...	...	...	2	...	...	..	33	16	41	33	2,566	2,060		
73	73	6	3	26	13	72	43	109	56	236	160	13,777	10,512		

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